

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

5 GATCTTCAAA TGGGACAAAT GCAAGGCTAT TGATCTTATT CCCAGCAAAC AAGTGCGACA 60
 TGTATGGTGT ATTTTGTGTG GGCAACCGAC TGCTGGTGAA AACGGGCTTA AAATCTGAGC 120
 TAGTTTTAAA GGCATCCTTC CAAAGTGTCA CATGTGGTCC TCTCGACACT GCAAGCAAAC 180
 10 CCATGTCAGA GATTTTCACA TTGCTTGCTG GTATAGGCAG GTTTTCAACG GAATGTAACT 240
 CCTTGAAGTT OCTGATATCC CACAGTCTCA TGGACTTATC TGCTCCGGTN TGTAGCCATA 300
 TAGTAACCTT GCTATCTAC CGCGACACCA GTGACGGGCC CGGTACC 347

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 673 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG101712

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

30 GATCTTCTTG GCGTCGGGCA TCAGACAGGC GTAACATAAT TGATCATTCC TGGTGCGGGT 60
 GAGGCTAACT ATGATGCATT GGAAGTAAAT CCTTACGAGA CGACGAAGCA AAGGAAAGAG 120
 CAGGAGGTTA GATCGCTACT GAACAAATTA CCTGCTGATT CTATTGCATT AGATCCAAAT 180
 35 GTGATTGGTA CGGTGACAA GCGTTCTGCG CAGATTAGAT TGACCGCCAA AGACCTGACC 240
 CAAATCGCAA CTGATGAAGA CATGAAATCT AAGGAGAATA GAGACATTCC AAAAGCAAAC 300
 CCTGCTGTGA AGAGTAAGAA ATTCAAGTCT GCGTACATTC CTCGTAAGA AGACGCAGAA 360
 40 TGTGTAGAT GAGAGGAAGT TGAGAGTACA GAAGCAGTTA GAAAACGAAA AGGNNCCCCN 420
 CTTGCGGAAG CACANGCTG CTGAGNGAG CTANCAGNAG ATTNOGANTN CCTGNGCAN 480
 GCGTCAGCNA GTCCACTGCG NNTNNCTCA CCGNNATTC TTGTTNNCN GANTTCACNC 540
 45 CANNNCCT CCCGNNCTNN NNTTNNCCN NCTTNNNTC ACCNNNNNC TCCNNNTCC 600
 NNNCCACNC CCCCNCNCC NNNCCNNCN CCGNNNNAN NNNNNCCCC CTCTNCCCCN 660
 NCCCCCCT NCC 673

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 523 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

500

II

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1017RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

10	GATCAAGGTT GAAAACGAGC AGCGTGATAA AAAAGAGCAT GACCGCGATG TCCCTGAAGA	60
	GGAATTTAAG ATTAAATATA CCTCGACCTA CTATAAGGTT GAGAATATGA CGGTGTAGT	120
	ACCACAGCAA TTAAATATA TTGCATTTCC AAAGGATGAG AGATTTACTC CCGCTCGCAA	180
15	GTTTAAGGGT AGCAATGGCG TTATAGTGCT ATCGGACAAA ACTCTGACG AGCCGGTGA	240
	AGTAATCAAA ACCGCTAGAC AGGAAAAGA GACGGATGCT CCTCTGCTG CTCCCTTCAA	300
	GGTTCAGGAT GACTTAGAAT TCTGAACCTA TAATTAGGAA GGTTCGATTA TGTTTCATTAG	360
20	GAAAAAGGTT ATTTTCTCTA GAAACGAAAG AACTTACTGA TTGCAGCTCT CTCTAAACAA	420
	GTATATTATG AGGTGATTTA TTTCAACTGA ATCTGGCTAA CGCCCGGCAA CTAGGTCTTA	480
	TCTTCTTGTA GTCACCTAG AGGTGGTGGT CCCCANCGG C	523

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 493 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1017UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

40	GATCTCCATC CACGTTTGG CCTCGTTCCT GAGCTCTCT GTGACTTCAT CCTTGATACG	60
	CGCAATTAAAG CCAGGCGCTC TGTATGCGTA CGCAGTGTAG AGTTGCACAA AGTGGGCCCC	120
	CGCTTTGGCA AACTCGATGG CATCTGGCC ACTACTGATA CCACCACATC CAACCAAAC	180
	CAGGTTCGTG TCCTTTGTGT ATTGGTGTAT CGTGGCAAA GCTTTTAGCG CAAATGTTTT	240
45	CACGGGCTTG GCGGACAAGC CGCTGCTG GTTTTTCAGC TCCTCATOGA CAGTGTACAG	300
	CGAGTCTGGC CTTTGATAG TAGTGTTGG AAACGATGAT ACCCCCAATA CTCGATTTTC	360
	TTGGGCGGCC TCTGCGATCG ATTGGAATCC TGGCTGGTC AAATCGGTG CGATTTTAAC	420
50	AGGAAAGTTG GTTATGTTA CTGGACCAAG AAAATGCCNC CGTGGNCAA GATTGGGTTA	480
	GCANAACAAG N	493

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 523 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1018RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

GATCATCGTC GAGGAGTACA CGCACTCGCT CTGCGCGTGC GTGAACCTTCG CCGCGTGACA	60
CCCGTACTTC TTGACGCCA CCGTGTTCAG GAACGGGCAC CCGGCGCGT CGTACAGGTG	120
CATGTGTGTC CACGCGGTG CGCTCAGAAG GTACTGTCCA TGGTCGTGA ACGACAGCGA	180
CGTGATCGGG CCGTGTTCCT TCTGGGCAC CTTGAAAGAC TTGACCGCCC GGAACCCCGC	240
CAATGTGTCT TTGTGATCC CGATACTCAT CCGCTCGTC TTGCAGCTTC CCGTCTTGG	300
CCCTCTGGC GCTGCTCTG ACTGCTGGCT AGCAGAGCTC ACCAAAATTT TTATAGCCAT	360
GGCCAGGCCA AACTTCACTA ACTGGGAAC CACACGACCA CAGCAAGCAA TGCCCTCAGT	420
ATGTGGGTG GTCCACCGT CTTGGGATG CTACTAACCC GCACAGCTCA AGCAGATGGT	480
GCACCTCAGC GCGACCTCG CGCTGGTGGC GATGGTGCTG GCC	523

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 770 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1018UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

GATGCGGTG ACGACTTCAT GCGGATGCAC TACGTTATCA CCCAGATGGT GGTGCGGGGC	60
GACTTTCCGT TCATGCCGA CTACCTGGAG GTCTTGGGC GCGGCTGA GCAACACGAG	120
TTGTGCGATG CCGCATGTC TCCGCTGTG CAACGGGACC ACATTGCGG ATACACCGAG	180
CTGCTGATG TGTATCGCG GAAGTCTGG GATGAGAAAA TGCTGGCGA GCTCTTTGCC	240
TCCTTGGTGA ATAGTCTGCC TCGGGGATG GCGGAGCCA CTCTTGCTA GGCATTGCAT	300
GAAGTCATGA CGTACCTGAT CAGCGAAAC CAGCCGCAAC AGGTGCTGAA ACTGGTGGCG	360
GGCATGCGCA AGCGGAGCC CAATCGCGG CCGGGCAAAT CCTCCGTTCC AGGCACCTTG	420
GCGCTGGTGG TTTCGGGTT GCGACAGTTC AACAATCCTA ATCTCGTGT GAGCTTTATT	480

GTGCAGGCAT ACAGAAAGAC GCAAACGAGA GTGCTGCTGG GACAACTCGG GCTATGGTCT 540
 CTGGCATTIT ATGCGCGCGC TGTTCGGCTC TCTCCGAGG CGGCGAAGTC GCGGCAGGAG 600
 5 CTGGCGCAGA TATCGCCTGT GGACCTGCGG AAGGAGCTAA TACTGAAGTC CGTACCTGAC 660
 AGCTGATAAT GTGGAGGCTC TATCAGCGAA TGTATCCGAG AAGCGATCGC AGGTGCCCCG 720
 GGAGGAGTAC CGCGAGATT TATCCAGCTA TTTCGGCTTT ACCAGGACTT 770
 10

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 735 base pairs
 (B) TYPE: nucleic acid
 15 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1019RP
 20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

25 GATCCATGAC CCATGCTAGG TGAAGGAGC CCTTACCCGC TAACTGGAC TCCCTCTTCA 60
 ATTGCGTTAT CAGTTTGGTA TCCACAGCAC CCACGTGTA CAACAACCGC CCCATCAGCG 120
 TAGACTTCCC CCATCCACA TGCCCTAGAA CAACAAACGA CATATGGGGC TTCTTCTCAC 180
 30 GTACATATGC AGGATGTG AATGGGTTC GCGGTTAGT GGGCTGCACA ACCTTCTTGG 240
 CCGACGGCTG TTGCGCTCC TTGCGCGCG AATCTCTCTC CTGCTCTCG TAGTTCTTGG 300
 GGGCGCGTC CTGTGTGTG AATTTCAGAT CGGCCACCTT CTGGGCCACC TGCTTAATCT 360
 35 CAAAGGCTCG CTCTGGGAT TCCACACCA CGTCATCCG CGAGGGCTTC ATGAAATTGG 420
 CACTGGCCTG CTCTTAGCT GCTTTATAGT TGTAGGATA AAAAAGTGA AACACCTCCT 480
 CCACTGCGCT CTGAGCTGG GTTTTGGTG GTTCTGCGA TCTGTCTGT CTCGAGAGGA 540
 40 GCACGCTCGA CAGCTGCACT GCAGCGCGG CTGCAGGCTT GAAGGACGGC TGACGCTGCA 600
 GAAGAGCCCC CAGGCGCATC CACTGGTCTT GCGTGCCTC CGTCTTGGG GGGCGCGCTG 660
 CAACAGGCTT TGCTCAGCG TCGCGCGCG ACTGCTTCG AGAGACGACA GCGTCTGCAT 720
 45 CAGCGACGGC CCGG 735

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 740 base pairs
 50 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1019UP
 55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

5	GATCGCAGAT TCATCATGCG TGTTATACCA GGCTCTATCT TCCTCGAGGT CCTCGGGACC	60
	AAACGGGGCG CTCTCTTTTG TGCCAAGAGG TGCAGGACCC TCGGCGGAT CCTCGGCCAG	120
	CAGAGTGGCA ATCTGGTCTT CATCCGCTAT CGCTGTCAGC TTAGGCACAA AAGCCAGTTT	180
10	TTCCGTTTTG TCGCGTGAT CATCTGCTC GAGCGGCTC TTCTGATCTC TCGACCCCTC	240
	TGCAAACTCT TTGAGCTGCC TTCTGCTGC CTTGTCAAGT CGCTTAAATC TCAGCGGTTT	300
	CTGTTTCTGG CCACCGCTCC CCAAGCTCTG GTCGGCTCC AGTGCTGTTT CCAGTTGCTC	360
15	GTCCGAATCT TCGAAGCTCA GCGCGACCAA GTTCTCGGAT GTGTTCCTT TCACCGGCTC	420
	CCCCAAGG ACAGCCTTCA CCGTGGTGTG TGTGGCTCC TCCTGGGTAC TCCGCAGGGA	480
	TACTAGCAGC TCATGCAGGA ACTTCTCTC CCTTAAACT TGCCAAGCGC CATGCAGCTC	540
20	TTAGTGAAT TCATCGATC GTATGCATGC ACGCGGCTA TATTGCATAT CCGCTGCACA	600
	AACPTTCTGT GACATTGGAT GCGGATGTTG GTGGATCACT CCTTCAGCGG GGGTCATCGT	660
	CTTAGCTCCT ACCGTAATTG CTCTCTCAGA TGCATGATGT GTACCATCGC ATCTTCAGCT	720
25	TGACAGACTT CCATATACGT	740

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:

30	(A) LENGTH: 537 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1020RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

40	GATCGTTCCT GTTCTGCGG GCAAAGTTCA GAATGACCT AGTGCCAGAC ATGACAGTAT	60
	CGTTCAAAT CCTCGGAGAG TTAGCCTTGG ATATCCACCA TGAAGACAAA AACCAGAGAC	120
45	CAACAGCGGA TCCTACCAAA ATGGCCAGAA TACCGAAAAA CCAGTGCAAT TCTCCGGTTG	180
	CTTCACCTGG GACAGTGACG TTATCCCAA ATAGACCCGT AACAAGATTG AAGGAACTA	240
	ACATTGTTC AATCATAGTG ACCTTTCCCA ACAATTCACT AACACGATTG TTACACCGGA	300
50	AGGACTCAAC TTGCAATTGT GCCAAGTAGT TACCATGTGA ACGGAGAAA ATCTTCTCAT	360
	AGGACAGTAA ATTTTGAAAC ATCGGAGGA CATGGTCTG AATATCTCCC AAATAGAGCG	420
	CTATATCAGC TCTTGGTTGA GTGCGCTGGA CATGATGATG TTGTATGTTT GAGCTAGCC	480
55	TGCCAGACAG AGGGTCGTGT CCGCTAGCCT GCAAGTTCCG AATGTTTATC TCGAGGT	537

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 563 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1020UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

GATCAGCACC GTGCCCTTCG TGTAAGCCTG CTTCGACATG GTGTCCGACG ACCGTGTGTC 60
 GCATTCTTTA CACGTGAAAG CAATCATCAT CATCGGCTTG TCCACCTTTA TAGACCCGAT 120
 ATGCCGAAAC TCATCTGCAA TAGGCGGTTT CTGGCTGTTT TGCAGCTGCG GCGAACCGCT 180
 GTGGAACCGA TGAGCTACCA AATGCCCCCC AAACACCGGA CCCAGCACGT ACTGCATGCA 240
 GTTACGGCTT GGGCGGAGTA AACCAGCAAT CCTGAGAGGC CCCATGGAAC GTCTAAGCAT 300
 TTAAACAGT TATACGTAGT CAGCGGTTTT CCTAAAACAG GACATGAGAG TCGCTCGAAA 360
 GAAGGGGTCA TCTCAAATTT TTCAACTTTA GAAGCGCTGC CCGAAAAAGC ACCGTCACCA 420
 TTTATCTATT ACAAGATGAA CAGTTAGTGG TCGCGCAAT TGTGTCAGAT ATATGTCCTT 480
 GGACATGGAT ACAAGACACT CTCGCCACAG AAGGAGCAGG AGATAGCATC GAAAATCTTG 540
 CAGAAGGCTG AGCTGGCTCA GAT 563

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 346 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1021I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

GATCTCACCC TCGCACCAT CGACAACCTT GCATACGCG GCGGTGAGGT CATCGGCAAG 60
 GCCCGTGCCC GCACACTCGA GATGCGCTC AATGCCCTGT CCGCTACCAA TGGCGCGGCA 120
 CGAACCTCG AAACCGTGCC TATGAACATA CGAAAGGCA TGGTTTCCAA GCACCGCAGT 180
 CGCATCCGG AGCAGGAGCA GCTGGCCCGG GACTCCGGCA CCGTCCTGCG CAAGGTCCGT 240
 CCGGAGAGT TCCGAAGAT AGACGCAACC TACAAAAAG ACATCGAGCG TCGCATTCGC 300

ACGACCATCA AGGCTGCAGA CCGTGCCCGC AAGAAACACC GCGATC

346

(2) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 562 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1021I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

GATCTGCGCC GGATGGCTCC GAGTTGACCG CGGCGAAGAT GTGTGACTCC TGCAGAAAAC 60
 GCTGGAGCTC GATGTCTGT TCCAGCAGCT GCTTCTCGTC GCGGTGCGCC GCGGCAGATT 120
 TCGGCGCGGG CTGGTCTCT AGGCGCGCGG CCTTGGCGCT GCGGATCGCG CCGAGTTCTC 180
 GTGGAGAAGG CCGGCTGTAG GCATCTGACG GCGCGCGGAA CGAGATCAGC CCGGCGGTAT 240
 GGGCGCGCTC GTGTCGGAG CTGGCTGAGG CGCGGTCCAT TTGGGACTGC TCGTCGGATT 300
 CAGACTGTCC GGAGCGCGCG TCGCGCTGCT TCTCGCGGTC ACTGTGCTC TCGGAGGCGC 360
 TGGTGTCTGT GTGCTGCTT TGTGCAGCAC GGGTCTGTG TACATATCCC ATATCTCTTA 420
 GGGAGCCAAA CTGGGCTCG AAGGCGCTCC CCGGGGCCCC GACNTGCTTG NATTTATCTT 480
 CAATTGTGGG TCATCGCGG GGGTCTCTGG GCGCCAGAA GTNTNTNANC AGGAANCCCT 540
 AGNANNANGG TTTTCAAATT CC 562

(2) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 611 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1021RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

GATCTCGAG TTGTGCGCG GCGGTGCGG CTCAATTACC TAATCTGTG TATAGTAAAC 60
 ACGTTGTGT ATCTACATAG CGCACTGTT GTAACCTACG CTGCACGCAT GCGCGGCGCG 120
 ACGTCCCCCA CCAGCGCGCG GTAGAACGCC TGCGCGCGCG GCGCGCGCGC CAGCATGCAC 180
 AGGCGCAGCC ACGTTTCAT CGTGATCAGC AGGCCAGTCC ACAGCGGGCC CTGCACGAGC 240
 GCGATCAGCA GGACGTCCCG CACCACCACC TTGGCGACGA CCAGTGGGCT GATCCCGGTC 300

TCGCGGTCCG CCGTGGGCTC GCGCTGCTTC TGTGCCCCGA GGTGTGCTG GCGGGCGCTT 360
 TCCTTGGCCA GCGGTGGGGG GAACGTCTTT TTGGAACCTG ACGTGGGTA TCGTTATTGC 420
 5 TTGGGGTCCA TTGGAACGGC TGTTCGGGGT CAGAGGGAGG ATTCTGCGC TGGTTTGGTT 480
 TTTACGAAGA CGACCTCGG TGAGAATGTC AGTTTGGCCA CTNGGCAGCC CCAGGAAGGA 540
 CCGGAATTC AAACCACTG AGTNGGCGN CGNGTAAAA ACGCTAAGTT AGTGCNNTGC 600
 10 ANACCCNCT C 611

(2) INFORMATION FOR SEQ ID NO:71:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 346 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1021UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

GATCGGGTG TTTCTTGGG GCACGGTCTG CAGCCTTGAT GGTGTGCCA ATGCGACGCT 60
 CGATGTCTTT TTTGTAGGTT GGGTCTATCT TCCGGAATC TCCGGAGGG ACCTTGCGGA 120
 30 GGACGGTGCC GGAGTCCCGG GCCAGCTGCT CGTGCTCCCG GATGCGACTG CCGTGCTTGG 180
 AAACCATGCC TTTGGGTATG TTCATAGGCA CGGTTTCGAG GGTTCGTGCC GCGCCATTGG 240
 TAGCGGACAG GGCATTGAGG CGCATCTCGA GTGTGCGGGC ACGGGGCTTG CCGATGACCT 300
 35 CACCGCCGCG GTATGCAGGG TTGTGATGG TCGGCAGGT GAGATC 346

(2) INFORMATION FOR SEQ ID NO:72:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 438 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1022RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

ANNNNNNNN NNNANGGTGG GCGGTGGTNG AATAGTGGGT CTTTCTGCCG GGGTCTGTGC 60
 AGAAAACGAG ATTCTGGGGA GTATCTGAAA TTCTTTGTTG CGCCGAGCCG TCTGGGTCTG 120
 55 CGTCAAGCGA CAGCGAGTTT GCGACAGGAA CTGAAGCTAA TTTGTTTGCT CGAGGTGTTT 180

TGGGGCTTCG CGTTTTCAGC CTTTCAGGAA ATCTAGAGGG GCTGTGTGCTT TTGAGGCTGA 240
 AATCAGGGGA ATAGCCTGAA TTTGCGAGCG TGAATTGAGC GGTATATATG AACTGTGGTA 300
 5 CATCGNCACA CTGTACCAAG AGGACAGCGA ATATCTGACA GTAGGGGCTC CTTGTGAAGA 360
 ACACAGTGTA TCGCGTGAGA TAGGTGTTGA TTGAGTCTAG CGTCTAGGT ACTCTTTAAC 420
 TTTTCAGTCGG TGTTTTTT 438

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 461 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1022UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

GATCCAGCAG ACGTTTTAAT CACCGATTTT TTGGGTAACA TTCAAAATAT AATTCTCGAT 60
 GACAGTGAGA TAGATGGTGA AACTCCAGCT GGACTTACGG AATCTGGCCG GACTCGCAAT 120
 CTGCTAGAAT TCGCAAAAGC GAAATTTTTT GGCANTGTAG ACGCAGAGAC TAATGGCAGC 180
 30 CATAAAAACG TGATTCCAAG CTATCCAGTG GTAAATGAGG ATTTACTAAG TGGGNNANCA 240
 AATGCATCCA CAAACAAAT GATAAAATG TGGGGGATTA TCATCTTCCT GGCCTAAGC 300
 TCATTAAATGA TGAAGTACG CAACACTGAA AACATATCGG GTAGTCGAGC ACTATTATGT 360
 35 TTCTCTTAGA AAAATGCTTC ATGCTTCATG GAATTAAGGC GCGAACAAGT GCAAGGTAA 420
 GAACGGAATT TTACTATAGG CCGGAAATTT GTATATATTA T 461

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 213 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1023I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

GTGAGAAAA CAGAGCTTGA GGTCCACTG TTCTTTTTCG CTGCGGATGT CTCTGTCTGC 60
 TCCAGGACC CCACTTTCAG ATTGTGGTGC ATCAAGCGCT GCAAGTGGAC TTGAGACGG 120
 55 GTGTCTGGGA TGGTGCAGTA CGCAAACTTC TTGTGCTTGT GATCAGCGGG GTCTGTCTCG 180

TGTACCGTAA GCTTGCCGGG CACCAGCTTG ATC

213

(2) INFORMATION FOR SEQ ID NO:75:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1023I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

GTGAGGGGAA GTAACCAATA TATTCAAGAG GGCTACCTAT GGCATCAATG AGACGTTGGG	60
AACCAAAGAT CGTCGGGTCC TGGGTGATAG CGCTTCTGTG TGGGTCTTG TGTGCAAGCG	120
ACAACCTTCA TACACGGGAT ACTTCTGGT TAGTGTAAAT CTCAACAGCG GTGAAGTTAT	180
CTTGATGAC TTCAAAGAGG AGCGTTTCT GACGGAGGCT TTGGAGACC GAATAAAATA	240
CACAAACCG AGTGAAGTTG TGGTCGGAGA TGGCCTTGGC TCAGAAATCG AAAAGGTGTT	300
TCATACTTCA GATTCCGATA TCACTCTAAA TAGGATCGAG CTCGTGGGT TGTATGAAGA	360
AATCTTCAGT GAGCCGCACC CAGCCTTAG GGCACAGTT CCTCTGCAA CAGCGCTCAT	420
GCTGGTGCAT GGCTACCTAA CAACTTCAA AAATGAGAGT TTA CTCTTCT TCAAGGAAAA	480
CTTTAAACCA TTCTCTCGA AGACGCACAT GATTCTTCCC TTCTAGCGCT ATTGGAGCT	540
TAGATATTTT GGGGACAGTA CAGATAGGAG CAGTAAAGGT CCCCCTGTTAT GGGTNTTAGG	600
TCAANTAGA ANAACTAGGG TTAAGGACTT GGAGGACTGG NTTGAAAGGC CTINTAATTT	660
GGTCAAGTCA ANAGAGTTGN GGNNGCAAN GATTCACTAG GNGGNATTN TCATGGCTCG	720
GAATT	725

(2) INFORMATION FOR SEQ ID NO:76:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 659 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1023RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

TGCCCCGCAA GCTTACGGTA CACGAGACAG ACCCCGCTGA TCACAAGCAC AAGAAGTTTG	60
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NGTACTGCAC CATCCCAGAC ACCCGTCTCG AAGTCCACTT GCAGCGCTTG ATGCACCACA 120
 ATCTGAAAGT GGGGTCGTG GAGCAGACAG AGACATCCGC AGTGAAAAAG AACAGTGGGA 180
 5 CCTCAAGCTC TGTTTCTCG ACGCTAGGGA TAACAGGGTA ATACAGATAT CAGATCTAAG 240
 CTTCCTCGT CCCCCCGGG TCACCCGGC AGCGACATGG AGGCCAGAA TACCTCTT 300
 GACAGTCTTG ACGTCCGAG CTCAGGGCA TGATGTGACT GTGCCCCGT ACATTTAGCC 360
 10 CATACATCCC CATGTATAAT CATTTCATC CATACATTTT GGATGGNCGC ACGCCGGGAA 420
 GCAAAAATTA CGGTCTCG CTGNAGACCT GCGAGCAGG AAACGCTCCC CTCACAGACG 480
 CGTTNGATTC TTCCCACGG CGNCCCNITG TNGAGATNT AAAGGTTAGG ATTINGCAATG 540
 15 AGGTTCTCTT TITANTINCT CCTTTTNA AATNTGTING GTCAAGTNT CANATCAAT 600
 TCCCAACATT AACACNITGG TTAGGGAAGT TCANNTTTCN GGGCCNNGA TTANTTCN 659

(2) INFORMATION FOR SEQ ID NO:77:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 646 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1023UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

GATCTCAAAC CTGAGAATAT TCTACTTCAT CAATCTGGTC ACGTTATGCT TTCTGATTTT 60
 35 GACCTGTCAG TACAGGCAA AGGAACAGA AATCTCAGG TTAAGGGAAA TGCCAGTCT 120
 TCGTTGTG ACACAAAAGT TTGTCTGAT GGCTCAGGA CTAATTCMTT TGTGGAACG 180
 GAAGAGTACA TTGCACCTGA GGTCATCAGG GGAATGGCC ATACAGCATC CGTGGATTGG 240
 40 TGGACATTGG GTATACTTAC TTACGAAATG CTCTTTGGT TCACTCTTTT CAAGGGCGAC 300
 AACACAAATC AAACGTTCTC CAATATTTTG GAAGATGAC GTTATTTTCC CAAACAATAA 360
 CGATATATCT CGCACTTGCA AGGACTTGA TTAAGAAAGT ATTGGGTCAA GAAAGAGAGT 420
 45 AAGCGACTTG GTCAAAGTTT GCGCCAGT GAGATTAAAA AAGCATCCCT TTCTTTTAAG 480
 ACCCGTCCAG TGGCGGTTA TTGGAGGGAA CCAGGAACCT CCTTTTATC CCGTATTGA 540
 CCGGAGATGG GTACGACTTT GGAAAGTAT CACATTAAAG GATGTTAAAA AGGCCGGGAA 600
 50 TCCGCCCCAC CCGGTTAGT CTCATATTCA AAGCGNGGT TCNNCN 646

(2) INFORMATION FOR SEQ ID NO:78:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 557 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1024RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

```

10  ATNNNNNGNN CANNNGTGGG GCGGAGCGAN TAGTGGGTCA GCANGGTGCG CTGGTGTGT 60
    GGCAGCCCGT TGGCATGCTC GCGGATCCTC GGTGCAATA TACCAGAATG CATCATGCTT 120
    CGCTGGCTCT ATATTGACCT GGTGGCCATA TATGAAAAGG CGGTCTTGA AGTTTTGTAG 180
15  AAACCTGCTT GCTTGAGATG GCGTAGCGAA CCCAAGGAAG CATTATTGTC GGCATTTACG 240
    AGGCCTGGAA AACTAATAA CCCCCTACTT CTCATCTAGC AGTGAAGGG GCACGTCTGC 300
    GGAAGGAAGC GCCTCTGGCA ACGTTTTCTC CCGGATAGA GCATATGGGT TATCCTTGTT 360
20  GATGGACTTC AACAGTTGTC GAGCATATTC TATCCTGGAG GCATTTGACG CTGGCAAATT 420
    TGACAGGTAG AACTGGATG GCGGCGTAG TATGAATCG ACAGCAGTAT AGTGACCAGC 480
    ATTACATAC GACCGGACGC ATGATAATTAC TTCCTTGNEN ACTTAANTIN CCCAATCTIN 540
25  NGCCAGATTN ATTTTCG 557

```

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 334 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1024UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

```

40  GATCTAAATT CCCACGCCGC TCGGCGGTT TCTCTGGAG TCTTTGCCGT GAAGCACGAC 60
    ATAATCGAGC CCAAACACAG CAAGATCGCA GAGAATCAAG CTTATGTAAG TCTCAGTGA 120
45  CTGANGCGT GCAGAACGT ACGGTGTGC ACTGCAGGTG CCAGCCATG TCTCATATG 180
    TTGTAACACG GCGCGACCG GGTTCGGAAT ATCAAACAAA CATATGTTTG CCGCAAAGG 240
    GACTGGTTCC CGCAGCTCC ACCCGCAGG GCACAGCGCG GCAATGCAGA GTCGCGTTAG 300
50  GGTGCCGTG CCGGATGG GCAGTGTCC CGC 334

```

(2) INFORMATION FOR SEQ ID NO:80:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 621 base pairs
 (B) TYPE: nucleic acid

EP 0 866 129 A2

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1025RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

GATCAGCCCG TTGCCGCCGC CGCCGTTGTA CTTCTGGTTC TGGATGGACC CCGGCGTGAT	60
GGCGCTCTCG TTGCCGTA CTGCTGCTGCT GCGCAAGTCG CACTTCAGCG CCACTAQCAC	120
CAGCTTCACG CCGTCGCAGT GGTCCGCAAT TTGCTCACC CACTTGTCTT TGACGTTCTC	180
CAGCGAGTCC CGCGAGTCCA CCGAGAAACA CAGCATAATC GTGTGTGTGT CCGAGTACGA	240
CAGCGATCGC AACCGGTCAA ACTCCTCTCTG CCGAGCAGTG TCCCACAGGC TCAGCGTGAT	300
GTGCTGGTTG TCCACGAAGA TGTCTGGAT GTAGTTTTCG AATACCGTGG GCTCGTACAC	360
CTTCGGAAAG TACCTCGCGT GAACACGTTT AACAGCGACG TCTTCCGCA AGCACCGTCT	420
CCGAGGATGA CGATCTTTCG CTCGATAGGA TGCTTCGACG ACGAGCTCGA CCACACAGAG	480
GCATCTTG TG TTGTAGAGC TGGTGGTGGG AGCTCCTCTG ATGCCAGTCC ACGCTACAAA	540
TACAGCGTTT GAGACGAAAT ACTAGCTGCT ACTGTCTTT CTCTCTGACG AGGTGCACCG	600
CGCATCCCCG TTATAACTGT C	621

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 522 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1025UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

GATCCCCATG AGAATGAGCG CATCTTGGAT ATGGCGCGCG CACCGGTGG TAAAACCACC	60
TATATATCTG CCATGATGAA GAACACTGCT TGTGTCTTTG CAAATGACCG CAACAAGCCA	120
AGAACGAAGT CCTTGATTGC GAATATTAC CGTCTCGCT GCACGAATAC AATTGTCTGC	180
AACTACGACG CCGCGAATT CCCTAAGGTT ATCGGTGGAT TTGACAGAAT TCTACTTGAT	240
GCCCTTGCT CAGGTACAGG TGTTATCGGC AAAGATCAAT CTGTGAAAGT AAATCGTACT	300
GAGAAGGACT TTATGCAAAT TCCACACCTG CAAAGCAAC TGATATTATC TGCAATTGAC	360
TCTGTTGACA GCAACTCCAA GCACGGCGGT GTCAATTGTCT ACTCTACTTG TTCCGTTGCG	420

GTGGAAGAAA ACGAGGCGGT GGTGGAATAC GCTACCGAA GAGACCTAAT GTCAGCTGTT 480
GAAACCGGCT GCCTATTGGT AAGGAAGGCT CACTAGCTAC GA 522

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 508 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1026RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

GATCCAATTG CTGGTCATAC ATAAGCATT AAGATTTTA TTACTATGTA TCCAACGTGA 60
ATTGCTATAT GTACCTTATT ATCGGTTC AAGATGCT TTAATTTCTT ATTCTGAATC 120
GGAGTCGTTT GACCGGCGCT TAGACTGGT ATGCTCTTG CCATCGTTT TCTCGAAAAT 180
GAAAATTCTA GCTTCAGCT CGGCTCAGG CTTAGTCGTA TCTGCTCAT GTTAGTTCT 240
CCTATGACGG TATCTGGGA AGGTATCCA CTGGAATTG TGCGACCTCT CAAGCTTTAA 300
ACCATGCTCC TTGGCAAGTA CCTAGGCTG CCAAGAATG TATGGATCAC CGCAAATAG 360
GGACAAAATG ATCTCCCA TATCATCAGA TGATTGTCT TTTTCTACT TCATATCCG 420
AAGATGGGC AACAACTACC TTCTATTG CAGCTTGAT AGTTGTTTAC AGCTATCAA 480
AATATCCGA TAGAGCTCTG AGCTCTCT 508

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 594 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1026UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

GATCTAGCAG ACTAGACTCT CTATCGCATC AAGTTTCTGT TTTCAGTCT GGGTTTCTTG 60
AGCAACCTGG TGCCCTATA CTTGTGTCAG ACGCAGCG AAGCAGAGCT CTATCGACGA 120
TGTCGAACCT ACAGACGAAA AACAGCGC CGCCAGCTAT TCCAGAGCA GACGTATCAC 180
TCCAGCTAT CAAGAAGCG CGCATGTCC CAGGTCTTC TACCTCCGT AAGTCGGTT 240
CTGCCAGCG TATTAGTGT GTCCACGG CCGCAGCTC AGAGTCATAT GTGGTTCCAC 300

CTGCTGGTGC TCCTCTGAAG AAAGAGTCTG CGGATGACTT ATTTCAAACG ACTGCTTCCT 360
 5 TTTATGAAAG TTACACTATT TCCACACTGA AAGAAATACC GAAAAACATT GCAGATGAGG 420
 ACTCTGCCCC ATATACCGTT AACGAGGATA GCATCACTAT GGCTGACCTT TGCAAACCTC 480
 TATTCCCGAT AGGTGAAGTA TCTGATAATT TCACCGGGCG AAAGAAGCTG CAAAAGCCAA 540
 10 GATGGAAGCT CGGAAGAAGC GCGCGAAGT CCGACAGATG GCTAAGCGTC AATC 594

(2) INFORMATION FOR SEQ ID NO:84:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 454 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1027RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

25 CATATCGACG TACTCTGGCG TTGTGTTCTT TGTGTCAGCA GGAACGCGT CCGGCATAGG 60
 CTTACTGACT TTCACAGACA TGATTCCTTTT GCTGCAAGTA AAGTATATTA ATGCCCTGT 120
 30 CAAAAATGGT AATAGTAAGG AAAGACCAAC CTGAGAAGCG TCCAGGGCCT GCGATAAGCC 180
 GTTTTACCT AGAGCAGTGG ATACAGCTAA TGTGGAATC AATGCAATGG CTCGTGTCAG 240
 AATTCTCCGT TTCCATGGG TTATAGTCCA GCGTATATGG CCTCCGCATA CTATTGTGCC 300
 35 AGCTATGGTA CAGACAATNC CTGCCGATTG GCGGAGATT AAGAGTGCGA GCATGAATAT 360
 GGTACCTGCC GCTGTGCGCA AAGTGTGGA TAATAGGTGG TGTATCGTGT ATAGATCCGC 420
 ATCGATGGCT TCCGGGTAT CATACAGTGC GCTA 454

(2) INFORMATION FOR SEQ ID NO:85:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 446 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1027UP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:85:

55 GATCAACGAG TAAAAATGCC AGGTGTTTCC GTTAGGTACG TGTATGAGT GCTAGTTTAT 60
 GGTTTGTGAC GGCTGCTGGG GGGCGTTTTC TGGAGGTTC CAGCGCTCAT ACGTTATGTG 120

AAGATGCTTC GATGNGAGG GTTGCAGAA GGAATGGGAA TGTGCCAAGC AGGACTTGGT 180
 GATTGGTTCC AGAACGTGCG TGA CTGTGTC AAATATGAAA TCATTGGGCG AAACCTTAOCT 240
 5 TCTACGGAG TCCAGCATGC AGAACGTGCG GCCGAAGCTA GCTGAGGCTC GATGAGACGG 300
 TGGCGGAAAT CCTTCGATCC CAGGCCAAAG CAGACGTACC TACCAGCTTT TAATGTGCCC 360
 GCCTACTAAC ATGATATACA GAGACGTTCC AGCTCAAGAG TTCATCAACG CTTACGCTTC 420
 10 TTTTCTTCCA AAGACAAGGT AAGTTG 446

(2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 551 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1028RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

GATCATGCAA ACGGAGAGAA GGAGAAGAAG TCTAAGAAAG AGGGCACTAA AGAGAAGAAA 60
 GCCAAAAAGC AGGAGAAAAA GGAAGTGAGA AACATCATTTG AGGAGTCCGT TGAGCAAAT 120
 AAGCTAGCAC TGATAGAAAA GGTGGAGGAA GAAAGAGGCC GCACGAAGGA GAAAGACCTT 180
 30 GACATCAAGT TCAGGTATCG GGAAGTTTCG CCAGAAAGTT TTGGCTTGAC CACCCGTGAG 240
 ATATTTATGG CTGACGACGC TGCTTGAAT GAGTATATTG GCTCAAGAA ATTTGCACCA 300
 TATAGACCAA AGGAGTTGCG CAACAAAGAT AAAAGGAAGG TCATGAAGGC TAAGCGTCTA 360
 35 AAAGAATGGA GGAAAAAGGT GTTCAATAAC GAAATGGGT TGGCGATGA GGATGAGGCC 420
 CTTGATACCC AGGCGCTCC TAAAAAGGAG AAAAGCCGTT CTAAGCACAA GACAAGTAAG 480
 TAATATTACC GTCTTATGT ACGTCTGCC GTAATTATAT TTGCTATAC ATATATATTA 540
 40 ATTTAAACTT T 551

(2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 628 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1028UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

GATCCGGGCC CGGCACAGGC CTGGCAGCAC CCATCGCCGC ATGCTGTGCC TAAGATGTCT 60
 CAGAATTACG CGGCGGCTCA GCGCGCGGCC AGCCCCCTCA TGCTTTTGGG CCAGGAAGCC 120
 TTCCACGAGC TGGCGGACTC GCTTGGCATG TCAATGTACA TGTCGCCCCA GACCCATAGG 180
 CTCAAGGGCA ATGGCGGGTA CCTGTGTCCG ACCGCTTCTA TCTCCGACCC TTCGGTGCTC 240
 GGTGACACCG GCGGCCCTCC GTCTTCTCAG TCATTGACAT CGCACCTTCT GCGTACCCCG 300
 AACTTTAACA TGAATGACTA TGTGCATAAC CTTTTCAGCC CCTCACCAAG AATAGACCCG 360
 CCAGGTAGCT CTGGGAATAT ATAGGGCCCT GCACACATTT AGCGCACAGT ATACTAGCTA 420
 ATCCTACATT CTCTGTGATA GTAATGCCCTA TGTGAGCACA CCTGCGGTAT AATTTCATTA 480
 TTTCTGTGTT CATAAATGCT GACATATGTC ACGTGGCTGG ATCAGCAAGT GATGGCAAAA 540
 TTCTTATGAA TGAGCCTGTT CATCTGTGCA GACAATACAT TATACAGCA TCCATCTCTC 600
 GGTATGATAC GGACTCTCTC AACTCGA 628

(2) INFORMATION FOR SEQ ID NO:88:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 655 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1029RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

GATCGTAACA CTCTGGAGAA GTGGAAAGAG CTAGTCCCTC CGAGCTGTAA ACGATGCATG 60
 GATGCGCTTC ATCACAACCG GTACGACACC GCGAGTTTC CGGAGCACAC GCTCGAGGAT 120
 GTGGGAAAAG GGGTTCGCG CGATGCAGTG GTATACCATA TTGGGCCACT GTGGCAATTT 180
 CCGATGGGAC TGGATCGGCG CGTGTGCAG AGCTCAAAGA AGGTTTGTGT GCTATTCTCG 240
 AAGATCGATA TGGTGGTGCA GAGACCGTC CACATGCCGC AGGACGTAGG TGCATTTTTT 300
 CAGAGCTTGC TTTATCATGA CCTGCATGTC AAGATCAGCA ACTTCCGCTT CTTTCTGCG 360
 CTGAAGCAAT GGAACATCCA GACGGTGCGG AAGCTCTGA GTAAAGAAAG TTACTTACTT 420
 GCGGGGCCAA ACGCGGCCAA GTGTGCTATG ATCAATGCC TGATGAAGAC TGTGTGTTAC 480
 GAAAGTCGGC GTCTGTATC CTCAAAGCAG TCCTCTGCGA CCGCTGCCGA CCTGCCCTCA 540
 AAAGCGCATT TGGACATCCA TTCTGCGGGT GTGAGCACAA TACCGAAGTT CACTCGCCAA 600
 CCCAGCAATA CGATATAAAG GCAAGATCT CCACGATTTT CAGGCTACCG CACAT 655

(2) INFORMATION FOR SEQ ID NO:89:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 638 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1029UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

GATCTCGTGG TGTTTTGCAA CTTCGTGGGT GACCGATAT CTCAGGCTTT GCGTCTGAG	60
CATGATTATG AGGTGAACAA GATCGCGCGC GCGCTCTCCT TACTCCAAAA GCTGTATATT	120
AGGATAGAA GGACCAATTT CCTCTCCGGC GCCAAGGGGG ACGACTTCTG GGTCAATTGG	180
GATACCACGG TGAAAACTG CGACATTACA TCTCTCCTTC TTTACTTTGA TGAGTTCTAC	240
AGAGAACAGT TGGATTGTGT CTTGGCGCAG GCGCGTCTC GCCACGAGGT CCCCAGCGGC	300
GATCTCGTAG CGTGGGAAAA CGATATAAAA GTAAAGTTCT TTAGCGAGAA GTCATCGAAG	360
CACGCTTCGT GGGGTTCCTT TGCCCTGGG AAATTGGAAC TCGTACTGGC CGCTCCGTTT	420
CTGTTGCCCT TTGCGGACGG GGTGCGCTAC TTTGAAACGC TGATACACCA CGACCGACCG	480
CGGTTGCAGG GACGCCACAC AGGACCAGCC TTGCGCCTGC CCGACCTGTA CTTCGCGTGC	540
TGCGCGCGGC AGCGTGGAT TATCTCCAGG AACAACATCC TGGAGATGC ATACSAGGCG	600
TATTATCCGC TGGCGAAGA CTTTAAGGAC CAGCTGGC	638

(2) INFORMATION FOR SEQ ID NO:90:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1030RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

GATCTGCTTG TTGCGCAACG CTTCCCAATC GATGTGCTG AGAAAGGGGT GGGCGGGAC	60
CTCTGGCGCG TCGTTGACCG CACCGAGGCG GTGCTTGGGA TTGCGGTTCA AAAGGCCCTT	120
GACAAAGGAG CGACCTTCG GCGATAGCAC GTCCCTGGG AATTTGACCT TGCCAAACGC	180
AATCTTCTGG TACATCTTCT GGTGTCTTC TGCAAAAAA GCGACACAGC CACAGCACAT	240
CTCGAATATC AAGAGGCCCA GCGACAGAA GTCAACCATT TTCGTGTAGC CCGTCTCATC	300
GAGCAGCAGC TCGGGCGCTA GATACTCGGT GTTACCGCAG AACGTATTGG TGCGATCCTT	360

TAGGTCCGCT TTTGAGAGGC CGAAGTCACA TAGTGCGATA TTGCGGTTGG CGTCTAAAAG 420
 GATGTTTTCT GGCTTGAGGT CGCGGTACAC GATATCATTA TCGTGAAGGT ATTCCAACGC 480
 5 AAGCACC AAC TCGGCAATGT AGAAGCTTTC CCGCTCCTCC GCGAACCGAC CTTCTTTCTG 540
 AAGGTGCCAG AAAAGCTCAC CACCGNCCAG GAAGTCAGTC ACCAAGTATA AGTCTGTGGG 600
 CGTTTGAAAA GAAAATTTC ACCAACAAATG AAGGGACACG ACTTTGAGCA GTACGAACGA 660
 10 GATGTTCCGC TCACCAATAG TATGTCCA 688

(2) INFORMATION FOR SEQ ID NO:91:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 751 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1030UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

GATCGATTCC CTGAGCATGT TTTTCCCTAT GCTGCAGGTT TTACATGGTG ACAITGCGGA 60
 TGCCGAAC TA AAGAACCTTA TGCTTTTGAA ACTCTGGAAC ACTTACGGCG GAATTCCTGA 120
 30 ACGTGGCTA TTCCTACTC TCTACAAGAA ACAGCAAGTT ACCGTAAATG ATACCGTGCA 180
 GCTCGAGTGG TATCCTTTAC GGCCAGAGTT TGTAGAATCA ACCTATTCCC TTTACAGGGC 240
 CACTAAAGAC GCATTTTATC TGAATATGGG ACGAAGCATC CTCAGGCTC TATCAACGCG 300
 35 CTTTAAACG AAATGTGGGT TTGCGGGCAT ACAAACGTC ATAACGGGAG AGCCACATGA 360
 TAGGATGGAA TCGTTGGTTT TGGGCGAGAC CTTAAATAT CTCTATCTCC TCTTTGAGGT 420
 ATCCAATGAA TTGCATACAC AAAAACGCAC TAACCAATA TTTAGCACTG AGGCGCATCC 480
 40 ACTGTGGTTG ACTGCTCGA TGAAGGCTCG CTACGAAAAG AACAAGTACT GTGAAAACGA 540
 CGTGTATATA CAGAACTTGC GTGCTTACA GGAGCTTGAC CAGCTGAAA GCGGTGCCAA 600
 TTCATTCCT GCAGAGGAAG CCATGATACC AGCTTCAGAT TTCAAAACAG AAGACTCCGA 660
 45 GGAGTCTTTG AAGGACCGCG TTGCAGCGCC ATACTAGAGG CCTACACGTA GATACGACAC 720
 GTTCGTGGAA CATGCAGACC TTTCGGGACA A 751

(2) INFORMATION FOR SEQ ID NO:92:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 646 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1031RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

	GATCTTAGTA ATGATCAGT GATGGATTA CCGCTGTGC GTTTTGCTCT CCGCAAAGCG	60
10	ACATTTACAC GGGAAAAGCG GTGAAGTCCC GCGGAAACCC AAATACTCGT AACTATGAC	120
	TATAGACGAC AATGTGATG ACGTGAGCAC AGTTTAACTC TAGTGTACAA TCACGTGCAC	180
	ATACCTTCTC TGGCACCAC ACATTAAACCA TTTATTTGTG GTCACGTGAA ATGAATGAT	240
15	GCATTTTATA ACTGCAGGTT AGTTGAGCCA TCTGCCAAC GATGTCTGC GACAGCATTC	300
	GGGGCAGGC GCGTCATGAG TGATTGGAAG GAGGCACAGG ACTCCACGGG GCGTGTTTAC	360
	TACTATAATT CGAAGGGGGA AACGTCATGG AATAAGCCCA ACGACAGCC AGTTGAGCTG	420
20	GAACCGCGAC TCGAAGAATG TGGCTGGAAA GTGGCAACGA CCGAGGACGG TAACGTGTAC	480
	TATTACAACA GGGAACTGG CGAAGCAGG TGGGAGAAGC CCGAGTTGGA GCCAGCCGAG	540
	GAAGTGCCCC GGGAGARGA CGAAGCGCG CCGGAGGARG AGAAGAACGA GCGTCCGCT	600
25	GCTGARGAGC CCGGGTCCG GATCGAAGTG CTGCTCAACT CAAACC	646

(2) INFORMATION FOR SEQ ID NO:93:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 386 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1031UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

40	GATCANGAN CAGCAGGAC AAATATAACA GCAGCAGCG CATTTGTCTA GTGGCTGCT	60
	GYYYTGTTG CACCGTGAG CTGGCGCTGG GCTGGAGTGC AAAAACCAGA GCCACAAGCG	120
	TGCGGTCCG ACGGGGAAAG CTGGATGCT GGCAGCAGCA GAGAATGGGT GCGGGAGTGC	180
45	YAGAGCGGTG CTGGAGCGC GCGGACGCG GCAAGCTGCG CCGGGCCGCG CTGATGCTGG	240
	GCGCGCATA CGAATCAAG AAGGCACAG CCGGGGCGCA GCTGGCGATG CAGGTGGCGC	300
	GGCTGSCCG CCGGTGAGC GTGGGCTGC GCGGGGCGG CGTCCCGCTG CTGGCKGTAC	360
50	ACCCCGTCT GGTAAGTTC GGTAC	386

(2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 775 base pairs
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1032RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

GATCTTTAAC CTCTGGACTT CAATCTTCTG GGTAAAAGCA CAAGTTTAGA GATGTATGAT	60
CCAAGCACCA AACTACAGTC TCGAGACAGC AAAATAATCC TACTTATATA AACTGAACGT	120
TGCAATTCTT TAAAAAATTT ACTAACTTCG ATTAATGCGG CGCCGGTGAG CGCCTCTGTT	180
ATTAGCTGAG TCATGCTGAG GGTTTGGCTA GGAAGCATCC GCTCTTACTA CGTATTTACC	240
AAGGCACAGG AAAATGTGGT GGTATTTCTG ATTTGGGGG CGTTTGTAC ATTACTOCAT	300
AGCTCATGGT CAGCAATCCC GTTCAATGGA CATTTGCTCA ATCGTGAGTC TTCCACTGGA	360
CTTGAAATCC CGCAGGGATT TTCGGCTCCT GGCTCAACCA GGTCGCGCGG ACACCTACAG	420
CCGAAAAAAT TGCTGCTTGG ACTAGGTCCG CTGACGTGGA CATGCGAGAT GACTTTAAAG	480
TGATACATTA AAACCAGGGC TGTATGAACT CAGCAAAGGT CTCTTTTATA CAGTGTGCAT	540
ATAATATTTT GGGCGCTTGC AATTACCTCA TGCCAGGTAC TCGTAAGATT CGCCGTCCGC	600
GAGCGCTGTA GGTATTCCTT GCTAATTAAG TTGTGATGG CCTTCTTGAT AGAGATACT	660
TTGCATTGTA CCGTTGTGAG ATTGGCTAT GCATTCGTCA CCAAAGTGGC ATGAGAGAGC	720
ACCGGTTTGC TTTTCATAATT CTGACGATAC AAGCTTCAGA ACAATTGCTT TCTTG	775

(2) INFORMATION FOR SEQ ID NO:95:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1032UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

GATCCCGAAA ATAGACTACA TGTGCCGCAA GCAGCGCGCC CTATCTGCAT TTCTCTTCTT	60
GGTGGTGTGC ATGTGGGTCA TCACGTTTAC CATTAGCATT CTAAGGGTAG TGAACGGGT	120
GAGTTCACTT TCACCCAGAT AAAAGTTAAC AGGACAAGTG AAAAAAAGC GGGATAAAGG	180
CATCAGTTAT GTAATAAAGA GCTATACGOC AATAAACATT TAAGTAACTA CCATGGTATC	240
TCCAGGGTAT TACTAGGTTT CCTGAAGTT TCGAATGTGC CTTGGTTACC CGGTGTTTAT	300

GCAGGCTAGC GCGACAAGAA AAATGCGGTC CCACCCATTTC CACGATTAGC GGTGGCAAAA 360
 GTCCTAAAAG TTAGGCAAAT AAACACATAA CCATCCTTCA AAAAGCGCTT GAGCAAGGCT 420
 5 ATCGGGGGTC AGAGCAGGTG TAATATACAT TAGAAGTGAG CGATGAACGA TAAATTGCCG 480
 AGAGCAGATG ACTTGAAGC CACTTGAAC TTTGTGGAGC CCGGTATCGG GCAGATCCTG 540
 GGCGGGGATG GGTGCCCCA TGCAGGGCGA GTGCAGAAAC TGCTGTCAGC TCGATGTAC 600
 10 ATGGATGTCT ACACGGCTAT CTACAACATC TCGTCAACA AGTCGGGTC CACCGGGCAT 660
 TTTCAGTCGG ACTCGGCGCA ACGGCAGTCG AACCAGTCAT CGATCCTGGT CCGAGGGAGA 720

(2) INFORMATION FOR SEQ ID NO:96:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 602 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1033RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

GATCTTGTG AACAGGTGC CCGCGTCCG CAGCTCCATC GCGATCCATA GGTACTCAG 60
 30 TGACACATTG CAGTCCAGCA CCTCACCAC ATGTGCGTGC CCGCGCACC GGTCTGCAG 120
 CACCACCTCG CGGTCAGAT CCTCGTCCGT CATCCCTGCG GCTTTGCAGC GCTGACGTG 180
 CACGAACTTC ACAGCCACTA TGTCTGCGG GTCTGCGCGC AGCGAGGGG TTTTGAAGAA 240
 35 CGGAACTG CCTGCCCCA TGTCTCCCG GAGCTCTAGT TCCTTAATCT CCGGCAGCA 300
 TTCAGCCTGC GAGCACTCA TAGTAGCCA AAGTCGTGG ACGGCCCTTC AGGTGGGCTC 360
 TAAGTGCTGG TGATGGTTGG TTGAAAAGTG ATGCCCCAAC AATAGTGTA AAAACGGCAA 420
 40 AGTGGGCTT ACGGGGGGAA CAAAACAAGT GCTAACTACA CGGAAGCAGG AATTAATTG 480
 GGAAGTGGC TTGAGCAGG GTATAGGAGT ACGGAGGTG GATATGAGTG TCGAACAGGT 540
 GTCTGGTGG CACGCGTGG AAGAACAGGT GGCACGGTTT GAACGCAATG TGGAGGCGG 600
 45 GA 602

(2) INFORMATION FOR SEQ ID NO:97:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 683 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1033UP

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

GATCCGCGTC	GTGAAAACA	GGTCTTGGG	GTGCGATACC	GCCAGCACCT	TGCACGACGT	60
CCGCACCAGC	TGGTCGTGC	TCTCCAGCGC	CGTGATGATG	TCCTCCACCG	AAAACACCTC	120
10 CAGCACCGTC	TCAAACGGG	CAAGCTTCAC	CACTGTGTCC	AGCAGCGACA	GAAGCCCGCT	180
ATAGTCCAGC	CCACTCATCT	CCCTGCCGT	GAGCACCTTT	TTCATCGCCG	AGAGTAGTGG	240
CCGTGCGTCT	GGTTCGAGAC	GCACCATCAC	CCCCAGGTGC	AGCTGCAGCA	TGTCCACCAG	300
15 CCCGTCACC	GACCCACGC	CGTGCTCTC	GGGCGCTCC	AGCACATCCG	CCAGCTGGCT	360
CATTGCGTCC	TGGATCTCC	ATTCTCCAT	CGCGATATCG	ACTCTTCOGA	AGTAGCGTTT	420
TGGGGTTTGT	AAAAGTAAAG	GGCACTTTTC	CAGCACTTCG	CCACTTAATG	TGTGAGGCA	480
20 CAGAACCGGG	GCCCTATGTT	GCCGGAGTCA	AGGCTTGCCCT	CGCTATATTC	CGACTTCAGG	540
AAGCTGCAAG	AGCTCAATCC	AGATGGGTTT	CAGGCTAACG	TTCTAACATG	GAAAGACCAC	600
CTGATGAACA	CAGTGTGGCG	GGACGAGCTT	CTGATAGAAG	GGGGCGACAA	GCTGCTGGAG	660
25 CGATTGAGCA	CCAAGGAGAC	GGG				683

(2) INFORMATION FOR SEQ ID NO:98:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 653 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1034RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

GATCATATTG	GTCTTGGCG	CAGCATCGCC	TCTTCTGGTT	CTGAGCCAGT	AGTATGATAG	60
CATGCCGCCG	ATGAACCTGG	CAATGGAGAA	ACTAGGTGAG	TTGTACATCC	CGACGCCAAG	120
45 GGCAACGCCCT	GAGGGTAACC	ACTGGGCCCA	TCTGTACTTG	TCCTTATCAA	TACAATTCTT	180
TACGAGGGAT	ATGACTGCAA	AGATGCTTCC	TAGGATGATC	GAACATTCCA	GTGCGTATGG	240
TGGGAGTGCC	ATACCCATGA	CCAGAGGTGC	GCAGTCTATC	CATACGAACG	CAGTTGGGAT	300
50 CCGGAATTGC	TGGCTGGGGA	TTTCGTAGAC	CTTGTGTGAA	AAAATGTACA	TTACGCTAGA	360
CAACACGATC	GACCAGCTGG	CGCCGATAAT	CTGGCGGTA	AACTGAGCCC	TAGGAGAAGC	420
ACCGATTAAA	TGCCCTGTCT	TAAGATCTTG	CATTAAATCG	CCCGCTTGCT	GAGCGCCCGC	480
55 CTCAGCTATA	CTTCGGCAA	CCAAATTTAT	TAATACAGCG	GCCTTGTGAT	CCCTGGGTAC	540

ACAAGAGCGA AAATGATTTG AGCCAGCTTT CCGATGCCGC TGAACGGSTT GAGATCGGTT 600
TCCCCAAGAC CCGGACGCC AAAATCGATA GAAAGATGCT ATAAGGAGAG CCA 653

(2) INFORMATION FOR SEQ ID NO:99:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 670 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1034UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

GATCAGGCAC AGCGGACACC ACCAAAGCAG AACCACGGTA CCATATCTCT CACACACGGC 60
TCCCACTAGC ACAGCGCCTC CACCTGGCGG CCGTGGGCTC GGGCCCCCGT CCGCATAAGC 120
ACGTGGGGG ACCTATTTAG TTCCAAAAAT ATTGTGTGTA CAGTAATAAT ATCTTCATTG 180
AGGACATTTC AGTGTGTACA CTGAAAAGAA CAGATACTAC ACTTGATCTA AGCCAAAAGG 240
CAAAGAGATT TGGTTTCTAA AAGAAAGAGA AACATGCCCTG TAAGAGGGAG GCCCATGGCA 300
CATTTTTTCT CTCTTATAT ACCAAGTAAA ATTTAGAAAA AGAAACGACG CGCTGCTTG 360
GTGGCGCGG TCTGCTGGG ACTCCAGAGG GGCTCAGCA GGAATCTGC ATCCAGGGCG 420
ATGCGATCAA GCTCTGAAG CCCATAGCTG CCGCCATACA CGCCGCCATT CGCGAGCTTT 480
CGTTGAGTTC GTAAGCCAATG AAATCAGAGT ATACGATTCT CGAGCGCAAG TTAAAGAGAG 540
CCCACTGGGC ATACTGCTAG GGCTACAACG GCGCACCAGC TGCGAAAGCG GAACTCCAAT 600
AGTTAAGGCG GGGTGGCAAT AGTATCTGCT GCAAGCAGCT TCTAGAATTT GSTAGATGAG 660
TGGTTCAATG 670

(2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 558 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1035I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

GATCTTTTGT GGAACCAAGA TCACCACACA CGAATATGCG ACGCCAAGCG CCGGAACGAG 60
CCACACATGG GCGCGGGGCG TAGCGGTGGG CCCAAGCAAG CGTATTTTGA GGACCTGACG 120

TGCTGTGGGT GAGCAATCCA GGGCATACTA GGGCCAGGTT GTCAGCTGAA AGTGTGTTAC 180
 CCGGTATCGG TATTACCCGG CTCGTATAAA TGTTACCCGG ATATGGTGAA GCCAAAATTT 240
 5 TCCACGGCGT AAACAACAGG AGAGTGTACG TGCATATGGC GGCAGCAGCT AGTGTAGCCT 300
 AGTGAGAAGA AGGNCITGTGA GCTAAGACTA GCGAGGAGAC GAGGATTGGG CACTGATTGC 360
 GCGATGTGGA TATTCTCTAC GCGCTGAAG AGCAATGTNG NATATNNGGN CGGCTNGTN 420
 10 GGCAACCGN GGNCCNGGG AGAGNACCGA GNTTGNNTNA NGGNGNGGG CINCANAACCA 480
 ANNNNNNCCN CAATCNCCTA CNATCAANN CAAATTNCCN CNNNCANCOC CNNGNNNNAT 540
 NNNNATTCCN NNNNNCN 558

(2) INFORMATION FOR SEQ ID NO:101:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 604 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG103512

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

30 GATCCTTAAA AGCTGGCCTC CGCAGATAGA CCTTCTGGC AGAGGCTGGA AACCTCAACT 60
 AGCAAGTGGC CACCCGAATC AGATAAGCAC TAGAGTGGTT CCAGTAACAG AGGAAGCGAT 120
 CAAGGAAGAT AGTAGAAGAG GACACTGCTG CCAGGCTTGA TGGACAGAG GGTITAGCTT 180
 35 TCTGTTGAAT TTCAGAGTTT CGGCGCTTTG TTTACTTCGC TTCAATCTTT CGTGTAAGA 240
 AGCTGTTTGC AGGATGTCAT CATTGCCCAG TCGCCAGGTA GGGTATTGCA GGGCCGACCG 300
 AGTCGGTGAA ACAGAGTCAG GACCGAGAAC GCGATAGAC AGGCGTTTGG TTTGTAAAGC 360
 40 GTGAGAGCTG AAGCAGCTCA AGAGGCCCGC CTGGGTCAGG TTGTGCGGTG GCGGTAGAGC 420
 ACAGCAGGCG ATCCTCGTC GGTGGAGCGT NOGNCAGNA GCGCAGGCG NTOGAACAGG 480
 GGGTGTATTAT NANGANCNAC CGACCACAAA CAGGCTNINA TTGNAACGG CGGCCAGTTN 540
 45 CCTCANCNTG GTTCCCGNGA CTGTGTTTNN GAGCCNATCC TTGGCNCCTCC GGCNNAGNAA 600
 AAAA 604

(2) INFORMATION FOR SEQ ID NO:102:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 480 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1035RP

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

	GATCTTAAAT TGTTCATTG TGACCTGAAA GTTGCCCCGT AGACGCTGCA TATTCAAGGT	60
10	TTCCATTTCC ACGGGACGTA ACCTAATCCG CTGCACCTTC GACAAACGAC TAATGTATCT	120
	GTTCTCGGAC TCTGGGTCAT TCGCATCCCC ACTCCACTGT ACTTGTCTCG ACTGTAGTTG	180
	TTGAAGCTTG AGGTTATCTG CCTCGAATGA CTGCAGTAGT AGTGATTTTC GTCTCCCAAT	240
15	CGTTTCTATG GACCGCTGA ACACCGAAG TGCTCCGCC TGAAGGACT CGAAAAGCCG	300
	CCGCTCTCTC GCAGAAGCG GGAAATAAGA CATAACTTGC TCATCGGTA GTAAATCTA	360
	CGTCATTATC CGGTCACC ATGTTGGCT GGGATAAAAT GGTGTTTCT CCAGGGGGCG	420
20	GGGAATACCA CCCACTCTCC AATCCTGCC CCGTTANIGA ATNGNTTNT TNATGGGNN	480

(2) INFORMATION FOR SEQ ID NO:103:

(i) SEQUENCE CHARACTERISTICS:
25 (A) LENGTH: 482 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
30 (A) ORGANISM: PAG1035UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

	GATCTGGCGT ACGGTACGA TATATTTCAA CTGAGGTATT CGTTAGAACA GCTACCTTCA	60
	GTGGTTCCAC GCTATATTGC GTTGCAAATA TGTTTGGTA CCTTCTGGC TTATCAGTGG	120
40	CATTAAAGAG CGGCTAATG GGGACTATCT CTTTACTGG GCCAGTGGTC TCCAAGAAGG	180
	AAGCATCTC AATATATTTT CCGTGGTTT TCAGGATGCC ATAATCTGGT ACATCACAA	240
	ACAATTTATG TTGCACTGGG TGAGATGCAG GGTATTAGT ATTGGAATC ATGTGGGTGA	300
45	TTGTCCCGA TGGGTGGC TTCACAACG CAGAGGAAA AATATCCCCA GGGGATATT	360
	ATNGTCGAA GCAAGAATC CTCGAGTAG GGATTGAAGA TTCTTCTTG ATACTTAAAG	420
	CTGAATTGGT TCANATGGG TCCAACGAAN GANTAGGNTG GATGNCCT TNGGGGGG	480
50	CC	482

(2) INFORMATION FOR SEQ ID NO:104:

(i) SEQUENCE CHARACTERISTICS:
55 (A) LENGTH: 645 base pairs
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1036RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

GATCATATTT	CAATGCAAGA	GCTCCATTAA	TAGGTATTGT	CTTGAGACAT	GCGCTCAAGT	60
CATTAATGTC	ATGGGAAAAA	TGCACCGTTC	CACCTCCTAT	CTCCAATGTA	TATTTTAGCA	120
TTTCAAAATC	ATGTTTTCTG	TTTACTATAA	AGTGCAACCC	ATTCAAGTCT	GCGGCTTTCT	180
TAGTAAAGCC	TCTAAAGGCG	TAATGCTGCT	CTTGATATACT	GCGTAGCTGT	GGGTCAAAAT	240
CGGTAACAGG	CTGTGCAAGA	AGAGCGGTAA	ATTGTTTCAG	AAATTGAGTA	TGCAATATTG	300
GTATGCCCTT	AACAAGTGCA	AAACAAATAC	TTTTTCGGAA	TCTTGCTCAT	CTTCATGGGG	360
TCTTAATAAT	ATGATGTGTA	GTGGGCTTCC	GAAAAAGAGG	TCACCACTGG	TATTCCTAAC	420
CCCTAATTAC	CTCAAGCAAA	GCAGGGCTTC	TTGTAAACAA	GTTCGGGGAC	CTGGACTTCC	480
CATGGGGCCC	TCCAATNIGA	TTGGNCGGAT	NTGNNCCCTT	TCNGATANA	GGNCTGGATG	540
GCCANCGGAA	NCCNCCCTAG	TGATNTCCCN	CCCTTCAGT	GNNNCCNCTN	GAGGTTTGA	600
NGGNNNNTTT	TCNNNNGCG	GGNNNNTCTG	GNAACCNCCC	CCTNT		645

(2) INFORMATION FOR SEQ ID NO:105:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 613 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1036UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

GATCCCCCTT	GCTAAAGAGA	GGTGTCGGCT	TGTATTCAAC	GCACATGCTG	GGCTATTTGT	60
CATTACTCTG	GCCCCGTCCC	AGAGACCTAC	AGGTATAAAT	TCCCCATCAA	GTGCCACCAG	120
AAAGATATGC	TATACTGGTT	TTGAGCTTGA	GCGACTGTTA	ACTGCAACCA	GCGGGACCGA	180
ACGGGGTAGC	TTTTACTCAT	TTATTGAGGC	TAAATTGGAA	CCAGACATCA	CAATTCTGCT	240
TCAGTGGGAA	ATGGACGCAT	ACAATCCAAA	ACGCCAGAAG	TATACTGAAA	TAAAATCCTC	300
TGTGGACTTC	AATGTACGAA	ATGTCCGGCA	CCTGAGCAAA	CTGCTTAAAA	TATGGGAACA	360
AACAGGGGTG	GTCCCATCCA	CTGATATCTT	GTAGGGGTCA	GAGACCCATC	AACCCATGTG	420

TTGAAACAGN CGGCCCCCTTAT GGGTGGTCAA ATCGNAGGAA AATCTTTTITA GGGTCGNCGN 480
 NAGGCANCAC TTTTITTANT TATCCGAGTG CAANATGGAA ATAANCATCG TNAATTITGA 540
 AGGTACTTCC CGGGNGAAC CANGGNCNC AANNVTITTN NGGGGNGAA AGANTCAAAT 600
 TAAATNGGCC NGT 613

(2) INFORMATION FOR SEQ ID NO:106:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 606 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1037RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

GATCATCATT ATTTCCTGG TTGCTGCGA CGATTGGAAG GCGGGGTGG GTTCTCTGAA 60
 GGATTTGAGG CGTATGAATG TTGCTCTCAC CAGAGCAAAG GCCAGTCTCT GGATCCTGGG 120
 TCACCATAAA TCTTTATACA AGAACAAGCT ATGGATGCAT TTGATTTGAG ATGCGAAAGG 180
 GGTGACTGC CTCGAAATGG CATGTCCGGG CTTCCTTGAT CCACGGAACA GAGCGGCCCA 240
 GGATGCTCTT CATAGGTTCA AAAATCAACA TAATTATATC GAGAAGCAG ATGATTATGG 300
 GCGTAACCG GTGATGACTA AATCAAGAGG ACGCAATAGA TCATCCAGAA AACGCAAACA 360
 TATGGAAGAT AATCCAGATG ATAACACTAGA TCCGTTGCT GAATTCAAGA AGGAAATCA 420
 AAGAGAAAGC AACACAGGCA CCGGTGGTTA CGGTGGGAT ACATCTAACC ACAGATTGGC 480
 ACCTGCTAGG AACGATAGCA AGAAGGCCAA GACGTGCTCC AATGCCGCGG GTATTTCGGA 540
 GGCTACTTCA NARGATGGTG ATCGAAGTCA GAAAGGACAT GGAACATAAGA AGARTCTTCC 600
 ATATTG 606

(2) INFORMATION FOR SEQ ID NO:107:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 653 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1038RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

GATCAAAAAA AGAAATTACA ATTGACTGTT GCACCCACAC ATTCAACGTT TGCACCCACA 60

CATTATGAGA TGCTTGATTT GGGCGAACT GCGCTTTCCA ACTACAGTCC CGAGACTTTG 120
 GGTGCAACC GAAGCAGACT TCAACAGTGG TGATAACCAT AGTGTGGAAG TCTAGCGAAT 180
 CTAAGGATAA TACCAAGAGA CAAAGCATAA TCGTATGTGC ACAGGATGGG GCGAAGTGTG 240
 GTCTAGAGCT GTGGTGCGA GCAGAATACG GTGGGGCAA TGAGGACGCC GCAGACGCCG 300
 AGCGTGTGGG CAGCTCAGA GGGCGGAGC GCTTCCAAGC GGTGAGACAG AGTACTAACG 360
 CATTCAGAC AAGATGGCTC ACGAAAACGT TTGGGGTCTC CCACCCNNAN AAACCTACGT 420
 AAGGGGTCCC CCAGTGCGG TGTCGGCTTC GNCCTCTGTT GGTCAANAAG TACGGGTTGG 480
 ACATCTTCCC CAATGGTTC NAGAGAAGGC CACGACATTG GTTCCCAAAT CCCCTAAGAG 540
 GGGGGGGGCC CTTCCTCTCT TNCNAAATCC GGGGGGGGTT TGGTTTCNCG GAGGTTTTNT 600
 TATTTTTCNA NACCCCNITT TITANTTINA NNCNCGGTC CCAGNINGTT GGN 653

(2) INFORMATION FOR SEQ ID NO:108:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 609 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1038UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

GATCGGTCTT CCGGCTTCTT TAGCTGCCCC TTATTCAACG AGTCATCGAC TGAGAAAGAG 60
 ATAAAAGCGG TGATAGCGA AAATAAGAAA AATCTCCAAA ATGATATGTG GCGCCTTTAC 120
 CAGCTGGGTA AGTCGCTGAC CAACCCCATC CACCCGTACC ACAAATTCTC TACTGGAAAC 180
 TTGAGACTT TATGGAGCAT TCGAGATCG AAAGGGGTCA AGTCCGTGA TGAGCTGCTG 240
 AAGTCTTACA AACGGTCATA TTCTGCAAAT CTCATGAAAT TAGTGATCTT GGGCCGCGAA 300
 GATCTAGATA CMTGGGTCA GTGGGCATAT GAGCTGTTC AAGACGTCCC TAACCATGGG 360
 ACCAAAGTGG CTGAGTATCA CGGCCAGGA TTCACGGCCG AGACCTGATG AAGGTAATTA 420
 AAGTGAAGCG GNTAAAATCT TAAGAGTGTG GAATTCAATC GNGGGGAGA TTTGGTTAGN 480
 ATGGAGGCAG CAGTCGTATG NGGATTTATC GGCAGAGGAA GGTCTCTCCG NTCTGAGAA 540
 AAAGTGAAN CGNCCNCCGT NGGNTTCCCC TTNAAGGAA AATNCCCCNC AANINGGCTTN 600
 ANNAAGGNT 609

(2) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 643 base pairs
 - (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1039RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

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GATCATTTCCT CTTCATCCC ATTGACGTGA ATGATGAACC GCATTATCTT TTTAACAGCG      60
ACAACATGCC ACGGTATATA ATGTGCTTGA CCTCGTGATA TGCAGAACCA GGTGTTTAGA      120
CTGGCAATAT CCTTAACTG GTGTAATATG GTCTTCAAAA GTTTTGCTGT GTCCGAATGA      180
GGGCAATTGA GTAAATTAACT CTGAATTGTG TCTAAAGTAT CGCCACGGGC ACATCTTTTA      240
AACCGCACCA GCGGCGCGCT TTTTATTGCG CATCGGCGCT GTGAATTAGC AAGTTGTAAA      300
GGGCTACTGA ATACGACGCC ATGCAGCTCT TCATCGATAT TCACAACCTC GTAATCATCC      360
AATTGSGTTAG CPTGGATTTT GNGGGCATA TCTCTTATOC CTAAAAAGTG GGTGGATGA      420
TGGATAAAAC TGATCTTCAT CATATAGAGA AATTTGGGCT CCCCCAACG CAGACACAGN      480
CAATGTAGTT TCTGTGGCA NAGTTNGCTN CGCAGGNATT ACTCGCANCC GGGGAGGINT      540
CACCCCGGAG ACAAAAATTC CCCCTTTTCT NTGGAAATCG TNGTAGNCC TANCAAGGAT      600
GGGTCAAGGA CCTGGTTGCC ATTCCANFTT ACCATTTTIN CCC                        643

```

(2) INFORMATION FOR SEQ ID NO:110:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 635 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1039UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

```

GATCCTTCCA ATAACGGCTA AACATCCATG TGCTGGTTTT AACTATGAGG GAGTTGGAGT      60
AATTTGCGGG TCTCGCAAAG TAAATTGACA GAAAACCTC AGATGGGTAA CGAAACAGCT      120
GAACGACGGA GATTAAAAGG AAGAGGCAAA TAAGCTATAG ATAAGATCGA TAAATATTGA      180
GGGGGGGATG GATATATTAG AAAGTAGCTT TAGACTTGAA GATGTGCTTT CAGCTATTA      240
TAGAGTTGAA AAGGTGGTGC GAGTCAATTA TCAACAGTTC GTACCGAGGA CTCAGATGA      300
TCAATGGTGT ATCCAATCG AGCTTCTTAA TCCGCAAGAA GGATCGGAAA GCGCTGGTGG      360
CGCTTTTTC GGGGAACTC TGGTGCTTTT AGCATCAATG ACCAGGACTT ACCCATTCOC      420

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GGGGTTGGAA GGGATAGGCG AACCCCCCNC CTCGGAGAAG AAGGGCCACT TTACGGCAGG 480
 GTTTTCCAAG GCNAACCTGC AACGCCNNTG GATCTTTTTA AAGCNTGGGG GGATGNTCAA 540
 5 TAANAATTCTN GAGGCGNAGA ACCTTTGGCA ATTGGAAAAN NNNTTTCCCC GNAAGAAAGC 600
 NNAGGGANCC CCCCCGGNCTN NATTTTITGGA ATGNC 635

(2) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 648 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1040RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

GATCCAGTGT ACCAGGTAGC GTCAGGCACT TCTAGCCCAA GGGCCGCGGT AAACCTTGGC 60
 25 CTCTCACAGC ATTTGGGATG AGTATGGGCC ATCTTTAGGG CAGTGAGTGT ATCATGATGG 120
 GTACAAAAG AAATGATTTC GCCCAGGATC GAACTGGGGA CGTTCTGGGT GTTAAGCAGA 180
 TGCCATAACC GACTAGACCA CGAAACCACT TTCTGCAGGC TCTTATGGA CAGGTGATGT 240
 30 TAGCCAGAA GAACATGAAC GTGATAATAA TTCAGAAACC TCTTATGCTA AAGTGAATT 300
 CTATGCTTA ATAACTGAA GGAATAGGC ATTGCCAGTA TTGAAAATCG GCCTTTGGGT 360
 TTATGGCTA ATTATATTAT TNNCANIATA TATATATACC AACAAGGTGA AGAATGGNTG 420
 35 TCGNTGGTIT GGGGGGATA CCCNAGAACC AAAGTAGAAG TTGACAAGTT GGTGGNAGNG 480
 GITCAATICA GNACTTCATG GCAACNTTTC CNATNNITIN NINAGAACCC CCNATTANTC 540
 TTTNNCTTCG GGGGGTCTCN NCAACCGGA AACAATNITN CNGAAGTGA TTNNGGGGAN 600
 40 GTTCTCGGT NTTTTNNCC TTGGGTCCA AATTGGGCGG GAANCCCT 648

(2) INFORMATION FOR SEQ ID NO:112:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 613 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1040UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

GATCAGCAAC CTTCTCCGCC GTCTGTGTCC TCGCTTTACC GAGGATACGA AAATAGCCGC 60

GGCTCTGTTT CAAATGGGGA TGCTGACGAG CAAACCACGT CTTCTGATGC AAGCAGTACT 120
 AGTTACATTA TTCTAGAGAT GGAGGCAATG CGGACAGCTC TGGTCAGTA TTTGAGGGCA 180
 5 ATCTGCCAAG ATGCAGAGGT ATCCGCCAGT CTGTCCCTAA CGAAATTCCT ATTCAAGAGG 240
 ACGATAGACA AGCGTGCTTT TACGCCAGAA ATCTTGAAG ATATTGAATC TCGGGAGCTT 300
 ATGGATGTAT ACAACCTCGA AAATCAAGTT AAATTCCAAA AAATGGCGGT TTGGATAGAA 360
 10 CTGTGAAGCT ACAAGTCTC GCTAAAGTCC CTAAAAGAAA AAATCTTGCA AGATATGACT 420
 ACATTATGAG GTTTTCNCC AATTTAAGGA GAGGAGGATC CCAGNGACNA TTTAGCTCTC 480
 AGAGATTCTT GGNITGGGAA AATTTTTTAG GTACCNATNC AGGTTCOCGG AATNAATGTA 540
 15 NATINITTAC ANTCGGCNG AAATATGCTC ANAGNNNAAG TTTGGGCACC CCCCCNCTT 600
 ATGANGTTTT GTC 613

(2) INFORMATION FOR SEQ ID NO:113:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1041RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

GATCCTCCAC CAGAGCGTGG GGGTCCCATTA CCTCTGTTC ACGCAGTGGC GCGTCTTGT 60
 35 AGAAAACGCC CAACAGTTGT TTGTAGGTGA ACTCGTCGGG GAATTTCTGG GCGCGAATTC 120
 GCTCCAGCTC CTCTTCGGAA AGCTTTTCAC GGCGCCACCA GCTTCTCATC CGTTTCAACC 180
 AGCGCTTTTC GTGAGTGGC CGCTGTTCGG CGCTTCTGC CGCAGCAATA TCTGGCGCA 240
 40 GATGCCGTAC GGGCTCGGC ACTTCATGAC GGATGACGCC CTGCCGCTCT TCTGTGAAGA 300
 ACTCGTAGTC CAACCCAGCT TCGAACAAAC AACTGCTTCA CGTATCGCCG CCATACCTTC 360
 ATCGACGTCT CGAGATAGTC GGGCGAGGA GGGGCAACAA ACAACGGAG CGCGCGCGT 420
 45 TTGGGGCATG TGTGANGTG GCTGGCGCTG GGCTTCACC AACGACGAAT AATGTTGGAT 480
 TTNGCCCTNG TCCNIGGGG GNTNCAATCA GAATGCCGN TCAACCNAAAN CAAAAGGGAC 540
 AATNCGCGG AACCAAGCG GTTCCANGCC GAAAGTGTTT ATTNCCNAC TINTCCGGTA 600
 50 NAATTTTTNT TINTCNCTGG GNTGTGNT NACCNCCACC CCNAAATAA 649

(2) INFORMATION FOR SEQ ID NO:114:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 645 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1041UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

GATCTGCTTC CTGAAAAATG GCGTCTCTGT CTTACTGGTA CTCTCAAATA GCTACGTCTA	60
GGTACAGGGC CATTTCCGGA TOCCAGCCAC GGGTCCACTG CAGGAGGTAC AACAGGATAT	120
CGCAGTCTC GCCCTGCGCA CGTCACTTGG AGCCTCCCGT TCTGTCTCTG ACGTCTCAAT	180
AAGGTACGCC GTTCTCTCTC GCGATGGAC TGGCTAACT GTATGGCCTG GCTACAAGTC	240
TGTTGGTTTC GAGCAGCCCA CTCTTTTATC CACCTCAAG GTTTACCGCA ATCCAGCAAT	300
TTTGGGTCTT GGCACAGCGG GATATCATGT GACTTAATTA CGTCAACGTT CAAGAGTTGG	360
GGGCGGCGGC AGCAAATTTA ACGGGGGCGN CGGTGCTCCC CCCGATCGG GGGGGGGGGA	420
GGNATTANC ANTCCANTGC CGGCCAAATC TINGTTTACA NAAAGCAAGC ANANTCATAG	480
TGATTTGGGG GAANANCCCA AGGTNNNGGC CNCCANGNT CAAANTCNCC CNTNNNTTTT	540
TGGGTTCCTG NCGGAAAANN CCATTCNCCG AGGGGCCNAG GNCGGGAAT TTTCCCCNGT	600
TNNAGGGGAG TCNNITNGGG GGGGANNNG CCANAGGAAG GNGGT	645

(2) INFORMATION FOR SEQ ID NO:115:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 682 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1042RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

GATCGTGCT GCGGACAACC GCCAGAGCTC GCCTACAGCC CGTATATATA CGCCGGCTGC	60
CGGCTGCGG CATGCGATTT GTCCACCTC GCTCTGCTTC GTCCCGCTG CCGTTGCTCC	120
ATGGGACCTT TCATTIAGTG TCTCGGAAC GTTTGGAATG TACCTATOG TGGTACCAG	180
TTGCTGCGG TGCGTACT ACATCTTCTA GCGGGACTG AGTCACATGT CTGCGCGGC	240
ACTCTTTTC TGTAGATAGT CAGACGACAG ATAGTCGATA GTTGAGATT TGGCAACAA	300
TAGCGGTGGC CATACGCCT GCCCATGTGT CCATGTGCAT TGGGAGCTG GGNCCACCC	360
ACGGGAATC TTNCCGTTT AANCTNANA GNCCNGGGA ATGNAAAACN CTTTCTTTNG	420

NENGGNGCAA ACGGGCCCTNN AGGNGATTTC TTGNGOGATT NGGGANGCAC TGAGAATCCA 480
 AGTNGGAAGG GGGCTNNAAA AATNGCTCCG GGCCANNCC TCCCAAAGGT TTNAAAANCN 540
 5 GONTAAATNA GCNCAGAAAG AACNCGGGA GGAANCANAC ANAAANTNGG CCCCNOCTGA 500
 AGGAAAGGGG CNGNNNTGGG GNCGAANCC CNGNAACGNT NTTTCTTAA GGANACAAA 560
 NGGTNCAAAA AAAATGGGG NC 582

(2) INFORMATION FOR SEQ ID NO:116:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1042UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:

25 GATCGCGTCC TCGAGGACT TGTGAGGGTG AAGCTGATA CGGTGATGGT GGTGGTGATG 60
 GTGGTGGTGA TGGTGGTGTG CTCTGCCCTG CGGTATGACC TGGGCTGTTG GCGTTGGGCT 120
 GTTGCTGCCG ACAGCAGCAC CTGTATCCGC AATGCCCGAT ATGCTAGAAT GGAGCAAATT 180
 30 AATGGACTGG TCTGCATTCT TGCAGAGCGG AGCCTGGCAC ATGCTGGATA TGCTTAGAG 240
 ATCGCCGGAG GATCTTTATG TCTGTTTCGC TATTCAACCAC GTGGTGTGG CAGTGCTGTT 300
 GTTTCATGAC CAGCCCGTAT CTTCANAGGA GTGCTAGTTC ACCCATGTGT GGGCAAAGCC 360
 35 AGTCGAAGGA GGCCATCCTC CACGGTGGG GAGTCCCGG GGGACGTTTC CACAAGOCOA 420
 GGTACCTAGA AGATGAATCT TTTTGTGANTC ANNGTITGGG CCNCTNGGCA ATTTNAAGTC 480
 GNAANTGNTG AACTTCGGAA AGTTGGAAAT TGGNCCNAGG NCTTCTTCCC CCNCCNCT 540
 40 TNGGNAAGCA AAAANAAANA ATTAATTGGN CCCCCCCCCG CAAATTGTNG GTGNGAGAAA 600
 TTTCCAAACC TTGGGTTAAT AGTAAGGACC CCGTGTGCTG GGGCCNCCC 649

(2) INFORMATION FOR SEQ ID NO:117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 648 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1043RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:

GGATCGGCGA TGGCGATAAA AGAATTGCTC CCTGATTGAT TGTGTGTCGA AGGAGATGCA 60
 GATGGATTGT CCAGAAAAAC CGGTTTAAAG ACTCGTTCAT CAAACTTGTT AAACCATTGC 120
 5 CCATCGGCTT GCAGTATATT GCGCAAGGTT TCGCGGATAT TTCTTCTGTC TAATGATAAT 180
 CGCCCCACAG GCTGGTCAGC GCCTGATGCA GAGCGGAAG AGGGTCGGTC TATCATAGGA 240
 GGAAAGCTTT CTGATCCGG GGAGCCGGTC GGGCTGTCGG TTAAAAATGG AGGTGCGTCT 300
 10 AATGAAGACA TTAGCTGGAC AGGTCTAGGG GCTCAATAT CAAATTCATC ATCCGTTTCC 360
 TCTGTTCCT CTACGCACCC TGTCCTTATG TTTAAGATCT CAAGCATACC CGCAGGAGTA 420
 CTTCCAAATA TGATAACGGT GAGAACCACA ACTACCAGCA CAGTGGCCAG AAGAAGGGAA 480
 15 CTTGGANCTC GCGNNNNGA CCGNTAGCCA GNGNCACTCC AANAGNAACC CCNANCCCCG 540
 NCGNNNNGG NAACNNCCTN NNTTTNGNNT TGGATNTCCC CNANNNNTNN AAAACCCCCC 600
 CCGCGGGNTN TTNNGGGNC CCNNNNCCC NNNAANGGNN AAAANNNC 648
 20

(2) INFORMATION FOR SEQ ID NO:118:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 419 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: 1043UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

35 GATCAGATTG TCTGTGATG GAGAAGCTGG CGCATCAGTA GAGTGCAGAG AAGACCCATG 60
 CGGAACAACCT GTACCACCCA GGGACTGCCG TCTTCCCGGA ATGTTGGGAA AAACAACAGC 120
 ACGGCTGAG TCACCTACAG TCGCAGTGGG TTGGAGCGC GACAGATTAA AAGAAAAGCG 180
 40 CTCGGGTTT GTGAACAGT CAGACCAAAA CCCAGGTCTT GGCTGCGGGA ATTCTCGCT 240
 TACCTTCACA TCAACTTAG TGTGTTCGCT GTCCNAAATA TACTCCAAA TCTTGATCGG 300
 CGCACCTCTG TGGTTCATGT CCTGCACAAG TTGACCACTG TATTCCAGTT TGACATCAGA 360
 45 GGGGAAATC ATCAGTGTGT GCGTTCACA GAGCAATAA ACTCCTTTAC TTCTGCAC 419

(2) INFORMATION FOR SEQ ID NO:119:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 606 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1044I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

5 GATCTCCGAC TGCCGCCGTC TGTACCCGTC ATCGCCCTCT GTAGTCGCCG TCATGCTCAT 60
 CCTACCCAGC CGCACCAACC AATGCTCGAT GCAAGCTCAA TGCTCCGAGC CGGCGACTGC 120
 10 TGTATACGTG CTGGCTTAGG GTGGGGAGCT CCCTTCACGG CCGGGCCGCC ATTGGAGTCC 180
 AGCAAGCCGG GAATGCTGTT GTGACTGTAA CACCCATACA TTGCAGGCCG TACATTTCAA 240
 CGATGGGACG CGAGTGCGTG GGGAGCTGGA CGGAGACCGA ACCGGGGGAG CCAGGGCGGC 300
 15 GGGCGGCAAT CCGCAGGCCG ACCCAGCGGC CGACCAAGCG GCGCTAGGC CGAGGGCAGC 360
 AGGCCAGAGC CCGGGGGCGG GTTTTTCATG AAAAATATAG TGGCTACAAG AGGGATAGGT 420
 TGGATATACC AGAACTCACT CGTAAGAGAT AATTAAGCAG ACGAAATGGT TGTITGGAGG 480
 20 ACGTTGGTAT CGCGAATCAC AATAATTTGA CAAAAGGTTT TTGANTCGGG GAGGTGNTG 540
 TTGTTGNGG NGCNAGACCG CCNTATTANA NGAAGNGAG GNAACNCAAG ANNGGGCCAN 600
 GGGGTC 606

(2) INFORMATION FOR SEQ ID NO:120:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 632 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1044I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

40 GATCTACAGA ATGCAGGAGA CGCTGCTTGA CACAACACAA ACGGCTGAGA CGGCAGGCCG 60
 GGCAGGCCG GTGCAGGAGG CGGACCCGGA CGGACAGGGG GCGGGCGTGG ACTGGGGCGA 120
 GCTGCTGGAG GTTGTGGAGC GCGACTACGG GCGCGGGCGG TGGCGGCTGG GGACGATACG 180
 45 GTACGAGGCC GCGCGCGCGG GCGGCTGAC GCGCGGCGCG GCGCGGGGCC TGGCGTTTCC 240
 GTACGAGGTG GGCAGCAGA CGTGCCCGGT GCGGCTTGGT GCGCGGCATG GGCAGGCGAG 300
 CGATCCAACA GGCTCGTGAC GGTGGAGCTG AGCGCGGAGG ACCTTGAGAG CCGGCTGGCG 360
 50 ACGGGCGAGA ACGCACGGGT TGGCAACCC GGAGCTTTTG TGGGTAGNCG TGTTCAACTN 420
 AGANTCGGA CCCNNTNCT NNTGCTNNG NACTNNGNG TGNNTNACN NGAGCTGAGN 480
 TGCAGNCAN GNAGNNNNC CNNNNNNGN ACGCCNCCA ACCNNNGAN CCNNTTTTTT 540
 55 TAGNNNGTT TAANNCCNC CCNNNNNTN GNGGGGNT CCCCCTGNT NNNNNNNN 600

ANTTNTTCATT TTCCCCCCTT CGNAGGNTTN NT

632

(2) INFORMATION FOR SEQ ID NO:121:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 626 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1044RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

GATCGGCTGC CTAGTGGAC CTCATGCACC GCTTGGAACT GCGCCCCAC CCATGTCAGC	60
ATCTTTATCT TGTCTGACCC TGTGACCGAG TAAACAAGCA CGTCATCCA CGTCTCAGCC	120
TTCCACATG GATGTTCAA CAGCCAGGCA TGGTCAATGC CTGCTTTGTC AACTATCTTG	180
TGTAATGTT GTAAGTTGCT CGAATGAAGT AGCAGTAAGC ACTTGGTGT GCGGACGAAT	240
ATTGTCCGCA GCGGTTGGA GTACAGCAGC TCTTCTACAC CATAATTCCG GCCAAGCAAT	300
TCTGTATATG TCTGAACTAG ACGCAGGCT CTCTCGTCCA TACTGGAGTA CACCAAGAAG	360
TCCCTATTAT TTCCGACCAC CACAAGTTGT CGAACGGCAT CAACCACAGG GACACACTGA	420
GCACCTTGGG ACGGAATGGG AATTACTAGC TCAGCCCTAA GCATCTTATG ATGAGGGCTG	480
CCCTTAGCTT GCTGAGTGCT TCGGGCTGCC TGCTTGTGGT TGGTGGGTCC TTTCTTAGAA	540
CGATTGTTC AACCATGAT GATGGGGTTT GGTCGGCCN GGTGATTGA AGATTTAAC	600
CGGTNCCAAG GAATTGACN TGGGG	626

(2) INFORMATION FOR SEQ ID NO:122:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 545 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1044UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

GATCTCCTTG ACCGCGCGTG GCGCTCTCTT CTGAAGGTG ACACGTGCA ACTGCTACTG	60
TTAGTATCGG TCCGGTCTGC GGCTCCGCTC CACGAGCAG GGAGCCCTGC TCCGCACTCA	120
ACATACCTC TTGTGCAAGT TAATGGTGTA CTCGCGAGTA ACAACGTCT TCAAACCAGC	180
CATTCGGCT GCTTAATTAT CTCTACGAG TGAGTTCTGG TATATCCAAC CTATCCCTCT	240

TGTAGCCACT ATATTTTTC TGA AAAACCG CGCCCGCGC TGTGGCTGC TGGCTGGC 300
 CTAGCGCCCG CGTGGTGGC CGCTGGGTG GGTGCGGAT TCGCGCCCG CCGCTGGNTC 360
 CCCCCNCGG CTCNNOCAG NTCCCCACGA NTGNGNCCA TNGNGAAAT GTACGGVITG 420
 AANGNTGNT GTNAAAGGCA NAAAAGAATC CCNNINGGT GGVITNINAAN NNNGGCNNNN 480
 NNNNAGGGAN GNGCCACCN ANNAGAANT TTAANAAGNG NNNTNNANA TNANNGATN 540
 NANAA 545

(2) INFORMATION FOR SEQ ID NO:123:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1045RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

TGTGATCGT AATGTGGTT TGTAGGCCAG AGGGGATTG ACGTGGCTG GGGGCCATC 60
 TGGCGTTAA TTAGATGCCA CCAATTGTT TTCACATCC AGGCGAAGT TGCATACCG 120
 CCCACATACT TGGTAATTG ATAATGCCG CACATGACG GATACTAAC AAAGCAAAGT 180
 GTCACATTCT TATTTCTGT TGTGGTCAA AATCGGGGG TAGGCGATCA ATTGTCATAT 240
 ACAACAGGAA AGGGGATCG AGATTCTAG GTCACAGGAC AGTTTGGGT TTTTATTGGG 300
 TGTCTTTGTG AAACCATAG CACTTGACAT AGGAGCCCTC TTTAGAGTAC AATAAGCAAC 360
 TGGCAGCAGC OCTACAGCTT GGGCTAAACT TCTCATTAT GTGAAACGG AAAGACGACA 420
 ATGCTCTGA ACGCTTTCAC GCCACTTTT GTGGCCCAAT TGCAINGNT CCGNAANTAN 480
 NNITTININ TNGGGNITTT TTGGNNAAA AAAACNNNA AAAAAGGGG GGGGGGNTA 540
 AAACCANGA TNFTTTTIT NGGNNNGGG GGGGCCCCCT TTTVINAAAN CCNNNCCCC 600
 CNNNAAAN GNNTTNNN GNNNAAAAA TTNNNNNNN NTTTTNGGN NNCCNNNTT 660
 NCCCCCNA NGNCCNNC CCNNNITTT TTTVINNA NNAANCNC CNGGGNNG 720
 CCC 723

(2) INFORMATION FOR SEQ ID NO:124:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 502 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1045UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

	GATCTAATAA CCACCCGTTG TATATTTGGG CGGTAACTA TATATGGGAA TCATATAAGT	60
10	GCTTAAAAAC ACCTCACC CG CAAGGGGGTC ATCTATAAAC AAGCCATAGT GTGTGTATCT	120
	TTGCCCTACAT AGCATCATGA CTATGTTGGC CACGGGTCAT TTGCACTGTT TTAGCATGTA	180
	ACTGGCAGAG CCAGCAACGA ACAGAGCTAA TTTTGGAGGC TTACCATACT GTTGTGCGTG	240
15	GATGTTGAAG CACGGCTGTT GTGGATAAGT TTAGAACCG TCGCCAGCAC ATTTCATACC	300
	TGAAACTACC AGTTCACGGG GACATGTTCT TCGTGGCTTT GACAGAATTA TTATTGTAGT	360
	CCAGTTAGAT GTACTACCAT TGTGCGCTA ACATAATCAC CATTTGTCATC TCTGGAATCA	420
20	CGTGTGCGCA AGCATATTAA TGTTTGTACT TAACTCGGT ACTCCCTTTA TCGAAAGGCA	480
	TCACGGAATC GCCCTTCACT AT	502

(2) INFORMATION FOR SEQ ID NO:125:

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 515 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1046RP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

	GATGCGCGC GCAAGCCCGT GCGCGAGCTC GAGCAGGTTT TCGAGGTGCG GGGGCAGCGC	60
40	GTCACACGAG TAGGGCTAGG GATAGAGGAT CTCCTCCGAG TAGCAGTGCA GGTCCAGGTA	120
	GGCGTAGATG TCCAGCTCGG CCTTGGTCTT GTTCAAGTAG TCGTTCCAGC TGCGCGCCTC	180
	CACGGCCTCG AACGGCTGCT GCGCGCTATA GTGCCCCGAG CAGGGGTAGG CGTGCTGGCC	240
45	GGTCCAGTGG TAGTCGAACG AGTGGTCAAT GTGACGCCA TCCAGCCCG GCATGTACGT	300
	GGGCTGCGCG TTCTTGCGCC ACAGGGGGTC GTGGGTCCAC GTGTACGGGT AGCGGTCTGG	360
	GTTGAACACA GGGATCACCA GGAAGTCGAG CCGTCCAGG TAGCGCGTCT CCTTGGGCGC	420
50	CCGCCCATAC CCGGAGAGCA GACGCTCCAC GACAAAGCAC GCCGTGCTCA CGCCAATCCA	480
	CTCGCGAGCA TGCAAGCGGT CCGTAATTAC CACCG	515

(2) INFORMATION FOR SEQ ID NO:126:

55 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 561 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1046UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:126:

GATCCGGGAG CTCCATCAAT AGAGGCTCTG GACTTCGGGA AGACACGCAG TGGTATGTCT	60
GTAACCTTTC AAATTCAAAT TAATCTCTCT TTCAATCGTAG TTCGGGCTGC TGGGCGATCT	120
CCGACACAAA CGGCTGAGTC GCTGACACAA ACAAAAATC GACTACGGAA AACGACTAAG	180
CGTCGCAGAT GCTATATATA TACAACTTGG TTCTTAATTA GGGTTAGATC CTTGCGAGAA	240
ACAGACGTTG AGCTTGTGCA CTTACAAATT TTAGTCCCGT CTCGGAAGTT TCCAGGCAAC	300
ACGAATAACA ACACATATTG CCATGGCATC GGTAACGTTT AAAGACAATG CGGAAGTGAT	360
AATGATAGGT GAGCAGGATC GGAGAAGAGA GCAAGGTATG GCCAGGCCCT GGATAACGGG	420
ATTCAATCGAC GCGGATATCA TGTGGCAAAA GGACGGTCCG TAACTCATAG TAGACATCGC	480
CAAAGAGAAC TTGACAGCT TATATGACA TTCGTCTCT TCTCTACAT TGTTGAGGCA	540
AAGATATAAG AGAGTATGGT G	561

(2) INFORMATION FOR SEQ ID NO:127:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 685 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1047RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:127:

GATCGAGTAG ATGTTCCGCA GCGCTGGCAT CTTCAAGTCC CGTACGTCA GGATGAATC	60
GCCAATGCTG GTATCCAGCG TGAACCGTT GACGCCCTGC CCGTCGTTA GCATGACGTG	120
CGTGGACGGG CCGTACATCG CGTAACAAGC TGCCAAGATC TCCGGGCCCG ACCGCAGCAC	180
ATCCTTGATT GTCCCGCTCG AGTCCGAGT CAGCTTGAAA ATCGAAACGA TCGTGCCAC	240
CGACACACCG GCGTCCAGGT TCGACGACC GTCAATCGGG TCGCAGACA CCGCATACGT	300
CCACACGGTC TCCGGGAACA CGATCAGGTC CTCCTGCTCC TCCGACACCA GCACCTTGAC	360
GTCCCGCTG GCCTTCATCG CATTGATGAA GATTCATCG CCCAGCACAT CCAACTTTT	420
CTGCTGGTCC CCAGTCGGT TAGACCGGCC GGAGAGCCCA ATCAGGTTC CAGCTCCGC	480

GGTCTGATC GTCTGCGAGA TGAAGTTGAA CGCAAACGAC AGTGAGTTGA GCAGCAGGTT 540
 5 GAACTCGCCC GTGCGGTTTT TGGCCGAGCT GCGCTGCGAC TCCAGGATGA AACGCGCCAG 600
 CGTAATGATA TCCGTGTGCA TAGCCTCTGC GGAGTCGGGT CTCTGTGGGT TCACGGTAGC 660
 CATTCTGCT TGAGTGGGCT GTGGT 685

(2) INFORMATION FOR SEQ ID NO:128:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 678 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1047UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:

GATCACTCCC CTCGCTTGAA ACAATGCCGT ATAGCGGAAT CTGGCCGAGC ACCAAGAAGA 60
 25 TCAGCAGCGA GACGGCTGTC CAGATCAACT TCTGGTTGTA TGGCACTTTG CGCTCGGGCG 120
 CGATCACCTC GGGCAAAAAA GCTCGAAGG GTTTGAATAG ATCCAACAGA CGCCCACTCA 180
 30 TTTGAGGCTC ACAATGTTTG TAGGTAGCTT GCTGGGCTTG GATTGGCTAC ACAGTTGGAA 240
 CCACACAAAG TCACTATTGG GCGAGATGGT ACTCTAAATG ACTGCAAGGA GAACTGGTGC 300
 GTTTCGTTTC CTGAACAGCT TAATTGGACT GAGTTGCAGT AGCTGTACTG AAAGGAACAC 360
 35 GTATCTTGAA AAAATTATAA ATCTCAGTAC CACGTGACCG GATACGAGGT GCTATTCCAT 420
 CTGCTAGAG GAGCTATATG CCTAGTCGGC GTACCTTGG TGAGTAAGAA TAGCTCTCTT 480
 GGACAATAAT CCGTGATGAC CTTATTATGC TATAAAGCTA TTTTACATAG CAATGGATCT 540
 40 CCGTGTTTAG ACCTTTGGC CGCCAAAAGA CCAAGTACAT CAGCACCGAG AACAGCAGGC 600
 AATGCCCAGG CGCTTGTGGA GCTCCAGAAG ACATGCTGGA TGCAAACCGG AAGAAAGCGG 660
 NTGGAGTAC AGTTGGCG 678

(2) INFORMATION FOR SEQ ID NO:129:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 638 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 50 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1048RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:

5 GATCGTCATA GTCCGCTCG TCGTATTGGT TCCTTCTGCG CCGGCGCTGC ACCGGCATAAC 60
 CCATCGCGTC CACCTGCATC TTGTACATCCG CGTCCATCTC GTGTCCAGA AACACCTGGC 120
 TATCGTGGAG CATCTGTCC CGGCATTGA GCTGCGGTC GATCGTCCG CGGTCCGCCA 180
 ACGACAGCTC CTGTGCTCC GCGTGTCCA CGCCCTCATT TTCATAGAAG TCCTTGTTCG 240
 10 GATTGGCGGT ATAGTCCCG TACATGTCTG CGCCACCAG GTCGACCTCG TCTATGCGCT 300
 CTTCTCGGTC ATCCAGGTG TCTTGCAAAC TCGATGCGCT CGTCGCGGTC GGTAATCGGG 360
 GTTCTCGAAG TCGATCTTCG TCCCGGGGAC CCCAGGGGG ATTATTCCCC CATACGGGAA 420
 15 GCGGGGCGCG CTCCAACTT GTGGGAAGAT AGTGGGTGCT CCGAGGTTC TTTGACCTGC 480
 TGTAATAMC CACTGTCTTT TTCGGTCAA CINTAGCCCT CNGGGCNGG TINACCCCCC 540
 ATCCCGTATG GAAGCANCCA ATAACAAATG CCTCCGAAAA NITTTGTNNT TTCNATTTT 600
 20 GGAANAAGNA AGTTCTNANA ANGAATTTTN NANTTNNN 638

(2) INFORMATION FOR SEQ ID NO:130:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 621 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1048UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:

35 GATCGCGCTC CTCAGCATG GCTTCTCTA ATAGTAACAC ACGCCCTGCT TCGTAGTGT 60
 CGAGGTGCAC ACCTACCCGC GCAAATAATG CCTCATCTGA CAGCTGCACC TGTAGAACT 120
 40 GTGAGCACCG GAAGTCAGC TTGCTGCAGA AGCTTGAGAG ATATTGTAG GGGTTGTCT 180
 GTGTCAGAAA GTTCTCACC CGTCATTCT CGTAGGATC ACGGATACGA CCTTGGCTCT 240
 GCGCGCACAG CCGGTACCCG CATAGCTTGT TTAGATTGCG CTCATCTATC AAGTCTGAAT 300
 45 ATGTGGGCTT GGGGAAAGAA CCTTCCACG TATTTTAGTG TCTCGGGTGT GCATTCTTGT 360
 CTTGCGAAGA GCAGTTGGA GCAATTGAC CGTCAGAAGG TCCCCCTCT TTAGTGAAAG 420
 NNGCGATGTT GGTGATAGGA ACTTAAAACC CGTTTTGNT TNCNCAATA GNAGCCANNA 480
 50 CCTTANGTAC GTTNCCGT TCTTAACCCC GCGGGTCCC NGGNGGTTT CAAGTCTTG 540
 GNGGANAAG GTNCCGNTC CCGGGGTNC GCTACTTAA GNGANGCAN AAGGNAAAAG 600
 NCCCCNGAA AAGTGGNTT T 621

(2) INFORMATION FOR SEQ ID NO:131:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 480 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG149RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:131:

GATCTTTTCAG CTTTGGCGTG CTATGGCAGG CAGCCTGCCG CTTTATGGCC TCAATGCCTC 60
 CCTGACGACT CTCATGTGCC TGTGGGCAAT CTGGTCACGT GGGTACTATC CAGCGACGGG 120
 ACTCCCTATG GCTGTTGCAG ACAAAGOGAA ACTCAGCATG CTCTACGTGC CCTACTTCCT 180
 GATTCTCTTG CGCCTGTCTT TTGTGTGAGG TCTGGAGCAA TGCAGAAGTG CAACACTCTA 240
 TATATAATCA CCTGACTATG TACCTATTTT TGGCATAGCA CGTTACGTTT TGTCAAGATT 300
 CCAGTCAGTT AGCTGCCTCG AGCAACCGGT GAGCTCCGAA AAGGGAATTC GCTACAAGGT 360
 CTTAGCGCAT AGNCTGCAA CTGGCTTTGG CTAGGTCAAT TGGTTTCTCT GGAACCANTC 420
 TTGGTATAGA CTCTTGCGTA TTGATCGGGC TGAGGAGTGT TTTNGNGGNA GNCAACACC 480

(2) INFORMATION FOR SEQ ID NO:132:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 477 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1049UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:132:

GATCGTCTCC TGGCGACAG CGCCTTCTAG ACCCTGACG GCGACACCT TGATGCTGCT 60
 CTCGCTCTCA AACGTACCA GACCTTTGTA GTAGGTGACG CGTTTTTCT TGAAGAGCAT 120
 CTCAATAACG CCAGTCAATT GCTTCACAAC GGTGTCTTG GCTTTTGA ACTGGGCGAT 180
 GTTCACAGTG ACCTCGCCT TGACGTGAT ACCCGCTGC TTGGCATCGA GTTCATCTG 240
 GTGCAGCAGG TCGAGTTGT TTAGCAGCGC CTTGGATGG ATACACCCA CGTCAAACA 300
 GGTGTCACT AGACGGCGG GCTTCTCCAC ACACGGGGG TCGAAAACA GTTTGTTGCA 360
 GCTTCGATG GCGGCCACNN TTAACCAAC GGGACNCCA CCCATCAAC ACAAGTCGG 420
 GGTTTTCTTT TGTGGAAT TCAACCAGG CCNCTTNNV GGGACACCN CTTANNC 477

(2) INFORMATION FOR SEQ ID NO:133:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 443 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG105CRP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

```

NNNTTCTTGG TGGGGCGTGT AGANTAGTGG TGGGGNGGC GCTOCACATT CTCCATGCTC      60
ACCACCACGA CAGACTGGAA GTACAGGAAA AGCGACATTG TCGTCCGAGA GATGTGCGAC      120
GGGGCGTTCG AGTTCCCAA AOCAGACAGC GTTCGGGACG CCAGCAGTCC AAGCCCCGCA      180
ATTGTGCGCG TCGCCCACTT CACAGGTGTT TGGGCCACGG TGGGGCGTCT CGTGAAGTGC      240
GTCTGGATGC ACGACACCTG GTGGTTCGAC TGGGTTTCGT GTACCATCAC CTTGAGGTAG      300
GGGTCAATTG CCGGCACCTG GTACGTACG CCGGGAATCT TMTTGTGTT CTCCGCGCTC      360
ACATACTGCA CGGCTGGAT CTGAATGTCA CCGGTGTCA CAGGACAAAA CTGCTTCTAG      420
CGATCCCAT ACATGTCTT CGC                                          443

```

(2) INFORMATION FOR SEQ ID NO:134:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 400 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1050UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

```

GATCCTTTCG TATGAAGTAT GCAGCTGTG ATATGCTTAG TTAAGTTCTG CCCAGCTATT      60
TAAGCTGCAA TTGAATCGGC GGTGACTCAG CTTCGAAAGG GTAGCAGAGA GGACCGGATG      120
GGTTTATTCG GAAAGGATAG AGGTGAACGG ATAGCTGAGT TTCCGTGTTA CCTGCTAGAG      180
ACCGAAGCG ATCTGGTGCC GNTGNCAGG GATTCTATAC AACCTTGTA TCGAGCGGAC      240
ATATNGGAG CCGATACTAG GCGAGTCCC TGGGATAGGT GAGGCTNTAG ACGGGCGGCT      300
GACGGGCGCT TTTGAGGCG CAGAGGTACC CCCGCGGTT GCGGAGGTGA TGAAGGCGTT      360
CCAGGAGCGG TAGACTCCC GCGACAAAA ACCAGGCCC                                400

```

(2) INFORMATION FOR SEQ ID NO:135:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1051RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:135:

GATCAAATTT GACATGTAAT TAATATATTG AGGTAAAATC TAGATAATAA ATACTGCCAG 60
 CAGTGTCTGAC CAACTTCCAT TAGCAAGCAT ATAAGAGGTC TTAAATCAGC CGAAGGTATA 120
 TGGGAGGGAA GATAGATCCC CCGGGCTGCA GGAATTGAT ATCAAGCTTA TCGATACCGT 180
 CGACCTCGAG GGGGGGCCCC GTACCCAATT CGCCCTATAG TGAGTGTAT TACGGCGCT 240
 CACTGGCCGT CGTTTACAA CGTGTGACT GGGAAAACCC TGGCGTTACC CAACTTAATC 300
 GCCTTGACG ACATCCCCCT TTGCCAGCT GCGTAATAG CGAAGAGGCC CGCACCGATC 360
 GGCCTTCCCA ACAGTTGGC AGCCTGAATG GGAATGGAC GCGCCCTGTA GCGGCGCATT 420
 AAGCGGGCG GGTGTGGTGG TTACGCGCAG CGTGACCGCT ACACTTGCCA GCGCCCTAGC 480
 GCGCGCTCCT TTGCTTTCT TCCCTTCCTT TCTGCGCAG TTGCGCGCT TTTCGGTCA 540
 AGCTCTAAAT CGGGGGCTCC CTTTAGGGTT CCGATTAGT GCTTTACGGC ACCTCGACCC 600
 CAAAACTTG ATTAGGGTGA TGGTCACGTA GTGGGCCATC GCCCTGATAG ACGGTTTTCG 660
 CCCTTTGACG TTGAGTCCAC GTTCTTTAAT AGTGGACTCT TGTTCCAAAC TGG 713

(2) INFORMATION FOR SEQ ID NO:136:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1051UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:136:

GATCTATCTT CCCTGCATA TACCTTCGGC TGATTTAAGA CCTCTTATAT GCTTGCTAAT 60
 GGAAGTTGGT CAGCACTGCT GGCAGTATTT ATTATCTAGA TTTTACCTCA ATATATTAAT 120
 TACATGTCAA ATTTGATCCA CTAGTTCTAG AGCGGCGGCC ACCGCGGTGG AGCTCCAGCT 180
 TTGTTCCTT TTAGTGAGG TTAATTGCGC GCTTGGCGTA ATCATGGTCA TAGCTGTTTC 240

CTGTGTGAAA TTGTTATCCG CTCACAATTC CACACAACAT ACGAGCCCGA AGCATAAAGT 300
 GTAAAGCCTG GGGTGCCTAA TGAGTGAGCT AACTCACATT AATTGCGTTG CGCTCACTGC 360
 5 CCGCTTTTCCA GTGCGGAAAC CTGTCTGCC AGCTGCATTA ATGAATCGGC CAACGCGCGG 420
 GGAGAGGCGG TTTCGGTATT GGGCGCTCTT CCGCTTCTCG CTCACTGACT CGCTGCGCTC 480
 GGTGCTTCGG CTGCGGCGAG CGGTATCAGC TCACTCAAAG GCGTAATAC CGGTATCCAC 540
 10 AGAATCAGG GATAACGCAG GAAAGAACAT GTGAGCAAAA GGCCAGCAA AGGCCAGGAA 600
 CCGTAAAAAG GCGCGCTTC TCGTTTTTTC ATAGGCTCCG CCGCTGACGA GCATTACAAA 660
 AATCGACGCT CAAGTCAGAA GTGCGGAAAC CCGACAGGAC TAT 703

(2) INFORMATION FOR SEQ ID NO:137:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 595 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1052I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:137:

GATCTCCGCT TCAAACCAGC TAGGACGAC CGGAGGTCGT TCAGAGAAA GTCAACAATC 60
 AATATCCTGG GTAAAGCTAG CACCGCCGAA CTACTTGCTC TTGGCACCAC CGCAAAGGCA 120
 CACAACGAAA ACTGGGAAGA TGAAGTGAAG AAACAACAAA CCGTCACCGT TGATGACCAG 180
 35 GTTGTTTTGC CAGAAGATTG GCGCTTTTGA GAGCCAGTGC AGGAACCAAA GACCTCAGTG 240
 TCCGGCTACA TCAAGAGGAA ACTATCCCTC AAGCGTGATA AATCCACAAG ATCCAATCGT 300
 TCGCAATATG ATAGGTTACA GACTAGATA TGGATGTTAA GTATAGAAA ACTGTATATT 360
 40 ATTTGACGTG CTGGGCGTTA CGGAAACATA TAAAGATTTA ATTACTCATG GGCGGATGGT 420
 ATTTTTTCAT GGGCCCCACT GGACTCCATT TGGCAGTTG GAGGACGAAG TAGGAACCCA 480
 ATTGCTGGTT ACAAGCGCTC GGTTTCATGT ACCCTATACA CAAGTATCCA TTATATNGGC 540
 45 TTATTGATTT GTGTCTNTGG GCGGACTTT TANTTTCTC ACTGGGGGAN GTCCT 595

(2) INFORMATION FOR SEQ ID NO:138:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 625 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1052I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:138:

5 GATCTGGGTT GCGCGTGAAG ACCACCAATG CGATGCACAC GAGTATCATG ATCAGCAAGA 60
 TTAAAGAAAA GACAGCGTTC AAAATAAAAA ATACCCATGC CATAATGGAG CTGACGCTTG 120
 CAGGCTGTCC AAAGAGCCCT GAGAAAAATA AGAAGAGGAA CGAATTAACA AGAGTAACAC 180
 10 TGGATATCAT AATGTTTCAAG ATGTTAGTCG CCGGTCGAG GTACGGCTTG CATTTAGCCA 240
 GAGCTGCGAG GTATATTATT TCAATGACAA ATAGAGCGAC GGCTGGGTTT TTACCGGAAT 300
 TGTGGGCAAA TGCAATAAAT ACGCTTTTCA ACAAATATG CGGAGGATC ATGCAGGACC 360
 15 ACCAGTAGTG TGTGCGACTG TACATTGTGT AGAAGAAGCC GTATTGTGT AGCACATTTT 420
 CATTGCCGCA TAGAATGGCA GCTGGGTTTG AGTGACACCC AATGGAAGCC CTTCACNGT 480
 AGATAGTGCG GCAGGCAGCC CACCCATAA TTGACAAGAT AAANGINGAG CTAAGNCTGC 540
 20 CAGAACGACC NCGCCGGGG ATCANCGTTC ANTGATTCCC CACCAGCAGA GATCGCNATT 600
 GANTGACCCC GGCAGTNTIN CGCAA 625

(2) INFORMATION FOR SEQ ID NO:139:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 486 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 30 (ii) MOLECULE TYPE: DNA (genomic)
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1052RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:139:

GATGCGGAC GCGTGGGGCC AGAACCTGGC GTGGAGCATG GGGCTGATCC GAGTGAATT 60
 40 CATGCAACGC ATCTTCCGGT GGTACGTCCA GCGAGCGGC GCGAGCCGT CGCTGCATTT 120
 GACGTCAACG ACCAGTCTG TGCTTGCCCA ACGCTCACTG GATGCGCTAG TGGGCGGGCC 180
 CGTGAGCAAG GCGACACAGT CGCTATTTGC CAGCACACAC ACGATGATCT TCAGAGGGAT 240
 45 CCGTAGACTG GCCTACCGTG CGAACATAGA GAGCTCATCG GTTGTGTGTA CCGGGCTAAC 300
 GTTCTTCCTT CTGTTCGGCT ATTTGGATTG GCGTGGCGGT TTACATTTGT TCAAGCGGGG 360
 CTACTCGGAG CTGCTTATCC CGCATGAAGG TCAATGAACC CAGGTCCGGG TCCCTAGACT 420
 50 TOCAAGAAAA ACGTGGGTGA TTGNGCTCAA AGGTGTCTT TTGGGGTANA TCTTCCCCCG 480
 NGTTCA 486

(2) INFORMATION FOR SEQ ID NO:140:

55 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 468 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1052UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:140:

```

GATCCAGCTC TTGCGGGTA TGAACCTTCC CGCCCCCACC GGGCCCTGCC ACACCGAAAT      60
CGACCGCACC TCCGTCTGCG TCTCGTAGTT CCAAATTTCC GGGGCCCCCG AGTACAGCGT      120
GATCAGCACC CACGGCTGCC TGGGTGAAA GTCAATGCC TTCACCTGT CTGTCTCTGA      180
GACAAACGTT TTCTACTCAC GTTAGTACTT GCTCCGCGCC CTGGATAGCA TGGTCGAGCT      240
CTGCGGGTCC GCCCCCTCCG TGGGTGGCAA AGATGGTCTT CAAACACACC GTAATAGGCC      300
GTGCGGACCC ATGCAGGCC CATTCGTCTT CGGACACACA CATACCTTCG TTTCCAAAC      360
TCATTGGTCC CCACTTGGGA TTCTAGTAG CTGTTCAACT CGGCTTTTGT GGTCTCTGTG      420
GAAAANTAAT ATTCCNTGG ATTATTATAA TAGGGGTCCN TTTTNTTT      468
  
```

(2) INFORMATION FOR SEQ ID NO:141:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 672 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1053RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:141:

```

GATCATAGTG ATTGATATCG GGAGAGGGTT TCGTATGTGA CAGCCTGTAT TCACGTATCT      60
GGTCTTCAC TTCATATATT TCTGTGGGA GCTGTGAATA TATCTCATG CGTCTCTGT      120
TCCATTTTTC GTGCATTTTG TGAATGCAG CCCACTCTC GTACGTTGAA GTAGGCTTGG      180
GTACTAACGA TCCTGAACA GGGAGGAGC ATGTTGCGAG GGAGAATATT AAGGAATCAT      240
ATCTCATTTT TACGTCTGAG ATAAC TAGTA CTAAC TGCAA TCGCGGTCC AAATACCGT      300
CGTAGTAATC GTATAGGAGC AAAGCTTCAT CTCCTATACG ATGTGGAGTT GATTCACTCC      360
ACTGCAGCCC TTGGTATTTA GCCAGCATTC CATCATATTT GGAATGATAA TATTGAGT      420
TCTTCACGC GTCTTATAC GGATCAATTA CTGATTTTAC AACATCGAGT AATATGAAA      480
GATATAACTC TGGATGCCC TGTATGACTT CCAGCAGGCC ATGGAACATA TCCCGAATGC      540
  
```

CGTCGGGCCA CTTCGAGACT AACTTTGGCG TGTATATCTG CTCTTCGACT GTCCCATGGT 600
 TGAGGTAGGT ATCTTCAGGT AGAATGAAGT CAATGAGCGA TAAACTGACT TGCTTGAATC 660
 5 GTCCCAAAGA GT 672

(2) INFORMATION FOR SEQ ID NO:142:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 609 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1053UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:142:

GATCTGGCT CGCTGCTGGC GCTCGAGCCC TACTGGGCAG AGCGCTACCC AATAACAAC 60
 GCCCTAATCG GCGGTGCAGA TAAATTGCAC AAGCTCTACT CAACCGATTT TGCGCCCATC 120
 25 GTGCGGCCA GGACTTTTCGG CTTGAACCTC GTGACAAGC TTGGACCGCT GAAAGACCTC 180
 ATAATGGCAA AGGTCAGCGG CCCAAATTAA TAGTCACGTG TACATAAAGG TTTTCTAAT 240
 AGCTATACAG CTTCGCCGCG TCCTCAGCTT GCAGCGCGCA ACCGGCGTGC AGCCATGAGC 300
 30 GTCTACTGAG AAATAACCAT TGGCGACCTT GTAGTAGACC TGGACTACAA GACATGCAGC 360
 GCGGAGAGCT ACAACTTCCT CAAACTCTGC AAAACTCGCT TCTACGACTG TCAGTGCATC 420
 TACCGACCTC CATCTGAAG GCTCAGCAGC CCTCGGCGA TCCACAGGTG GGCTTTGCAT 480
 35 TCCGACCGA TTTGCCGTGA CACAATACCT CGATGAAGG CCTGGCGGAC ACACGGGCGG 540
 TCACCCCGAA GCTCATTGAA GCTTCGGTTG CCGCTCAACC CGCAGAGCGC TTCGGACAGG 600
 TCGCCTTTG 609

(2) INFORMATION FOR SEQ ID NO:143:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 594 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1054RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:143:

GATCCGTGCG CGTCCGCCA ACGACAGCTC CTCGTGCTCC GCGTGTCCA CGCCCTCATT 60
 55 TTATAGAAG TCCTTGTTGC GATTGGGGT ATAGTCCGCG TACATGTGCT CGCCCAACAG 120

GTGACCTCG TCTATGGGCT CTTCTGGGTC ATCCAGGTG TGTGCAAACCT CGATGGGCTC 180
 GTGCGCGTCG TTATCGGGGT TCTCGAAGTC GATCTCGTCC GCGGACCCCA GCGGCGAATT 240
 5 ATTCCCCATA CCGGAGCCGC GCGCGCTCCC AACTTGTGGC GACGATGGTG GGTGCTCGTA 300
 GCTCTGTGAC CTGCTGTAC TACTCCGCTG CTCTGTATCG TTTTCATCTC TAGCCCTTCT 360
 GCGCGCGTGT GAACCCCTCCA TTCCGTTATG CGAAGCCATA CCCAAATTAC CAAATTGCCC 420
 10 TTCTGAGAT CTGAATACT ATCTCCAGA TGTGTGACAG ACGGCGAGCT TCTCAGATA 480
 CGAAATATCG TGATTTTACG TGACTTTCAA TACCTCATTT GGATTGGATT GGTGAAGCAT 540
 AGATTTTCAG TCATATTGAA AAATTATTTT CAAACAGGCG AATTGSATGA GCTG 594

(2) INFORMATION FOR SEQ ID NO:144:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 545 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1054UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:144:

GATCGTCGCG TTGCGCAGGG CTGCCAACG AAGCCTTGAC ATGTCAAACC GCTTGAAAGA 60
 AGAGGTGATA TGGGCCACCC ACGAGGCCAA GTGGGAGCAA CTGCTCGCTA CTGGGACCTT 120
 TCCCCAGAT GGGGCCAAAA GCGACTGGAA GCCTGGCCGA GCATGGCTGG AACCATATGA 180
 35 GCGCGCGTTT CGGAACCAGC TTGCAAATCG CAAGCGCAGC AGCCAGAAGC TCAAGCGCTA 240
 TAGTGCCCAA ATCAGCAAGG TACACCTCCC GTATTACATT AAGTGCACTG CTCTATGCA 300
 TACCGTCCG GCCAAACGCT TCGAGTGTTC CCAGAAAGAG CTCCACACCG TTAATOCATT 360
 40 CGTTCAGGC AGAGATCTCG GTTCCTACT CTCCAAGTGG CGAATGGTGA ACGGAAAAAA 420
 CTACTATCGC TGAATGTATA TAGTTTATAG TCCTATTCTT TCATCAGGTC TCCCAGCAGA 480
 GCGCGCCGCT CGGTCTCAAC TATGCGCACC TCGCTCAGCC ATTGCGTGAG GTCCTTCTGA 540
 45 GTTCG 545

(2) INFORMATION FOR SEQ ID NO:145:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 532 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1055RP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:145:

5 GATCCGTCGC CGGTCCGCCA ACGACAGCTC CTCGTGCTCC GCGTCGTCCA CCCCCCATT 60
 TTCATAGAAG TCCTTGTTGC GATTGGCGGT ATAGTCCGCG TACATGTGCT CCCCCACCAG 120
 10 GTCGACCTCG TCTATGCCGT CTCTGCGTC ATCCAGGTGC TCTGCAAACG CGATGCGCTC 180
 GTGCGCGTCG TTATCGGGGT TCTCGAAGTC GATCTGCTCC GCGACCCCA GCGGCGAATT 240
 ATTCCCCATA CGCGAGCCGC GCGCGCTCC AACCTGTGGC GACGATGGTG GGTGCTCGTA 300
 15 GCTCTGTGAC CTGCTGTAC TACTCCGCTG CTCGTGTATG TTTTCATCTC TAGCCCTTCT 360
 GCGCCCGTGT GAACCCCTCA TTCCGTTATG CGAAGCCATA CCCAAATTAC CAAATTGCC 420
 TTCTGAGAT CTGAATACT ATCTCCAGA TGTGTGACAG ACGCGCAGCT TCTCAAGATA 480
 20 CGAAATATCG TGATTTTACG TGACTTTCAA TACCTCATTT TGGATTGGAT TG 532

(2) INFORMATION FOR SEQ ID NO:146:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 553 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1055UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:146:

35 GATCGTGGG TTGGCCAGG CTGCCCCAAG AAGCCTTGAC ATGTCAAACC GCTTGAAAGA 60
 AGAGGTGATA TGGGCCACC ACGAGGCCAA GTGGGAGCAA CTGCTCGCTA CTGGGACCTT 120
 40 TCCCCAGAT GGGGCCAAAA GCGACTGGAA GCCTGGCCGA GCATGGCTGG AACCATATGA 180
 GCGCGGTTT CGAACCAGC TTCCAAATCG CAAGCGCAG AGCCAGAAGC TCAAGCGCTA 240
 TAGTGCCAA ATCAGCAAGG TACACCTCC GTATTACATT AAGTGCAGTG CTGCTATGCA 300
 45 TACCCGTGCG GCCAAACGCT TCGAGTGTIT CCAGAAAGAG CTCCACACCG TTAATCCATT 360
 CGTTCAGGC AGAGATCTCG GTTCCCTACT CTCGAAGTGG CGAATGGTGA ACGGTAAAAA 420
 CTAATATGCG TGAATGTATA TAGGTTATAG TCCTATTCTT TCATCAGGTC TCCAGCAGA 480
 50 GCGGCGCGCT CGTCTCAAC TATGCGCACC TCGCTCAGCC ATTGCTGAG GTCTTCTGT 540
 AGTTCTGTCAC CCG 553

(2) INFORMATION FOR SEQ ID NO:147:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 556 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1056RP

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:147:

	GATCATCAGC GCGAGCTTCC AATTTGTGGG CTTTCTGTTG ACATACATCC TCACACCTC	60
	GCATGCCGCG CCCCAGGGCT CCGCTTTTGG CCTCGGCGTG ACCTTACCGG GATACGGGTA	120
15	CAGCATGATT CCTAGCGACG TGACGAGCAA GGTCGGCAAG GACCGGACA TCGCGCGGT	180
	GGAGCTGGAC GACCCCAACG AATTGGAAGA TTCCGACCTG TACTCGCCGC TGGCGCAGCC	240
	GGCGCAGGAC CGCTTCGAAT CACAGCTCTC GCACGGGCTG ATGGAAAAAC GGCGCAGAAT	300
20	TCCGGCGCTC GCATCGTGC TAGAGATTTT GGGGCTTGCA ATTATGTGCA AAAGCGTGTA	360
	CGACTACATT GTGTCAAGC GCATGGAGCG CCGCATCTTT ACTGCGAGCG ACAGCGAGAG	420
	CCCCGCATAG ATGTTTCATAT AACTTATATA TCCCTCATTG ATCTTGGCTT GGGCCCCGTC	480
25	TAGGGAGCAG ACCAGCAGTT TCTTCGTTCC CCTTNAAGTC GATGCGGCA GAGAGACCAG	540
	ACGCCCCAGC GCGGTA	556

30 (2) INFORMATION FOR SEQ ID NO:148:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 550 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1056UP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:148:

	GATCCACCC AGGACTTCTC GAAAGATAGA ACTCCGAACA CAGCCACCGG CACGAACCTC	60
45	TCATCAGCTA GCAGCAATAC TAAGCAGACC TTCAGCGAAA ATGAAGAAGA ATCTGATGCT	120
	GAGTTCGAAG ATGTATAGTT GTACCGTAT ATTGCATTTT TTTTTTTTTT TTTTTTTTTT	180
	TTTTTTTGGG GATGTCAAAA GCTCATCTCA ACTCCATGAC CAGCCAGTAG TGAATAAGC	240
50	AGTGTGTCTA GTTCTTCTAA GTGATTTTAA GGACTATGAG CTTTAATGAG AAGGTGAAGT	300
	GGTACTAGG CACTGCTGTT GCGACTCTAG TTACGATAAA GTCTGTGAA GCCGTATATC	360
	GCCTCTATGC AGCTAAGCAG AACACTAGCA GGAGCATTTT TGGGAGGAG AAGGACGTAA	420
55	GACTGGCCAA ACGGATTGCT GAGTCTAGGG CGTACGATGA GGAATTATAT CCGGAGCAGT	480

TAGCTCGAA CTACGCATTT TGGGCGAAGA CGGTATGGCA CGACTACAGG AACAGTACTC 540
ATATGGTGGG 550

(2) INFORMATION FOR SEQ ID NO:149:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 653 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1057RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:149:

GATCAGGGCC AAATCACTGC TAAGTACAAA CACAAAGGGC CAAGTATTAA GGTGAGAGAG 60
CGTTACAGGT GCATTGATAA TACGCAGGT ATATATCAAG GGCACAGTG AACACATTCT 120
GCAGACGATA GATATGTCTG AGACGAAGTA GGTGAGATA TTTACGCACA AGCCTCATTT 180
GTAAGATAAA TGGTCATTAC TAACGTTTTT GGGTTTAGCA GCAGCAGGCG GAGCAACAAC 240
GAGGGGCAGG AGCAGCGTGG TGGTGGACAG GGTCCAGGAG TCGAGGATGG CCGGGAGCCA 300
CGGGCCAGGG CGAACACGGC CAATGTGACT GTGGCAATCC AGTACTCGTG GCTCCACGAC 360
ATGAGGAATG TCGGGGGAGA GGGCGAGGAA CCGGACAGGG CCGGGGGGAG AACGGAGATA 420
CGTTCTGTAT GAGCTTCACG GACGTGCCCG ACTCGACGTC GAACGATCGG TTTCAGGAAG 480
TGATCGGCAT TCGGGCCAG TTTGCATTGA GCGCGTGGC GCGCGGATC AGCCTCTGTC 540
GGGGCTCTC GAAGGAGTCC TTTGAAACT CCCTCTCAGG AAGCTCAGCG AGCTGGACAG 600
CGAGCTGTGC AGTATATGCT ACGAAGACTT TGAAGACGAC ACGTCGATCG GGT 653

(2) INFORMATION FOR SEQ ID NO:150:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 668 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1057UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:150:

GATCTAGGGG TTCTTCTTGC CCGCTACGG GCGCCCTCG CAGCTCGCG CTGGCTCCCG 60
CGCGAGAGGG GATCGGCAAG GCTCCTGCA GCGCACACT GCGTCTATGC CTGGACCGTC 120

180
 240
 5 300
 360
 420
 10 480
 540
 600
 15 660
 668

(2) INFORMATION FOR SEQ ID NO:151:

- 20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 614 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

- 25 (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG105811

- 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:151:

60
 120
 35 180
 240
 300
 40 360
 420
 480
 45 540
 600
 614

(2) INFORMATION FOR SEQ ID NO:152:

- 50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 634 base pairs
 (B) TYPE: nucleic acid
 55 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1058I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:152:

```

AAGCTTGCAT GCCTGCAGST CGACTCTAGA GGATCTTGCA AAGTATGGCT TGGTAGTGTG      60
GTGATGGTGA TCTGCAGTTT CAATTGCTTT GTTAGTTAGT GTATCACATT CTCTGGCTT      120
TGGCCGATTA GAGTGCTGGG CCTCATGGAT GGGGATCTCC GGTGTATACA CGTATATTTA      180
TTCTCTTCGC CCAAGTGGCG GAGTACAAAT TTCTCTAGC TGGACCTATT TGGTGTGTAT      240
TTCAGTAGTG AAATAAAACT ATCAATTAAG TACAGCTTTC GTATGACTCT GCCACAGGAT      300
GAGAGCAGAC ACTCTGCAA GTACCGGATT TCAAATAAAT GTTTAGGAAT AAAATCAAAG      360
CGGTACAATT ACATAATTAT AAAATGCTCT CGTAGCTATG TCTTTCCGGT CTTTTTTTTA      420
TCTTAAAGTG AACATCGAGT CTGTCTCTTC TTAGGTGTTT AGATGACAAG CTTACATGCC      480
TGCGNGNGNN AAACAGTTNG TCGAATCCCT CGGATCCTCN CCANGTAGNA AGGNANTACG      540
NNCAGCAGAG TCATTACGNC NACCCACCGG CTGCCCACCC NANNTTNCNTN GGNNGNAGNG      600
GGNNGGNGNT TGNACCNANN TTGNNCCNT NGCC                                634

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(2) INFORMATION FOR SEQ ID NO:153:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 475 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1058RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:153:

```

GATCATTCCT GAGAATGCTC ATAGTTATGG TTTAACGGTT CTTCAAACGG AAGAGTATCT      60
TCAATTACAG AGTAGTTTGG AGAGAGAACA GGTAACGTCC TACAACATTG CCGAGAAAGC      120
AACTACAATT GGCTACGTTG CACTTCCAAG AACCGAGTAC GATGAACCTG TAGCTTCGCA      180
AGCTTCTACG AAAGAACAGA ATTTTGAAGT ATAACGCGCG GAAAATGGCA AAGTCATAGT      240
GGATAAATCT GAGTATCAGC ATTTGAAGAT CAAAGCTATC CCAGTGATTT CACCATTGCC      300
TCAAATGAGC AAAGAGCAGA TGGTTGAAAA GGCCAAGGAA CTTGGAATGG TAGCTTTGCT      360
CCATTGACGA GTATGAGAAG TTAAAGAGCC CTATTTCCCG ATAACGCTTT GGATTGCAAC      420
ACCGAAGGAC CCGGAAAGG TTGGTCTCCT AAAGGAGGAG TACAACCCCT TATTG          475

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(2) INFORMATION FOR SEQ ID NO:154:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 476 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1058UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:154:

GATCTGGCGC CCCGACAGCC TGCCCAGGTG CGCCTGCATC CGCCGCTCCT GGTGCGGCTC 60
 GTGAGCCCC AGCTCCTGCC GGAAGCTAGC CTTCCAGCTC ATGTACGACT CATGCGTTAC 120
 CTTGGTTCCG CGGAATTTCT TCTGCTCTTC GAGCTCGGCT TCGCGTAGCT GCGGCTCGTG 180
 CTCTTCTCT CGGCGCTCAA GCTCTTCTG AAACCACGAC TCCGCTCCT CTTTATTGA 240
 CGAGATCAGC GCAAACACA TCTGTATTC CAGCAGGATG TCTCTCTCA CCTGTGCGAT 300
 GGACTGGCTT GGAAAGACCG TCACCTCGC CGGTCAAAT GAAATGCTTG TCCGAATAT 360
 TCTCAGTTT CGCAACAAA GGGTCCCCC GTGCTCGTCC GGACTTCCIN GTCTCTCAAT 420
 CCGCTCTCAA CTTGCTCGGN TTTCGGCGGG GAAGGTNCCA NCGGCTTAA TGTAC 476

(2) INFORMATION FOR SEQ ID NO:155:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 644 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1059RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:155:

GATCTGTTAC GCTGCAGGC GAAACCTCCA ATGCTCTGGG CCAAGGTTGG CGGCTGGGAT 60
 TCTTGGGCTC ACTGCATGCT TCGGTTTTCA AGGAACGACT GGAGAATGAA TACGGCTCGA 120
 AACTCATTAT CACACAACCC ACTGTTCCAT ATGTCGTGGA GTACTCCGAT GGGACCCAGA 180
 TAACAGTAAC AAATCCAGAT GACTTTCTTG ACCTGACACT TCGGCGAACC AAGATAAAGA 240
 ATTTCAGGA GCCATATGTA GAAGCTATAA TGACTCTTCC ACAGGATTAT CTCGGAAGGG 300
 TTATCACTCT CTGCGACGAC AACCGTGGCA TACAGAAAGA GATAACGTAC ATTAACACCA 360
 CGGGCCAAGT GATGCTGAAA TATGATATCC CATTCGCACA TCTAGTAGAC GACTTTTTTG 420

GTAAGCTCAA GTCTGTCACG CATGGTTATG CTTCCTTAGA CTACGANGAT GCAGGCTATA 480
 AGCGGTCTGA CATTGTCAAG ATGGAGTTGC TTGTAAATGG AAAAGGTGTG GATGCACTTG 540
 CACAAGTGAT GCATCGCTCC CAAACCGAAC GARTGGCCAA AGAATGGGTT ANGAAGTTCA 600
 AGCAATATGT CAAATCCCAG TTATACGAAG TGGTTATCCA GGCC 644

(2) INFORMATION FOR SEQ ID NO:156:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 649 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1059UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:156:

GATCGTGGCG GACGTGTTTG TCGCACCGC GGACGTGCTG CTGAAGATGT CGCGGTACGA 50
 RGAAGCCAAG GCGGCGCGG APCGCGGCT GAGCTGGAG CCGGACCACA TGAAGCTGAA 120
 GGCGCTGCAC CTGGAGTCTG TCGCAAGTT GCGCGACTAT AACGGCGACA TCTAGTCCGC 180
 GCGCGCGGCC CGCGCGGCA CCACGGTAT ATATACACAG CCGTCTCCG CGCGCCATGC 240
 CGCGCGCGG GACCGCAGAC ACAGGCGCG ATCTTGGCG GCGCGCGCG ATGAGCTGGT 300
 GCAACCTCT TGGCCCGTAC CTTGCTAAGG AGGTAATCT CCCACCTCAG TACTATAAAA 360
 AATTTTAAAG TTAGCCACTT TCGAGTTACA ACTCCCCGC TGTGGGTAA CGGATCTCAA 420
 CTGTGAAGC CCTAACGCT GCTCTACTCC TTTTCCGCTA AGGCAATATC CGCCATGTC 480
 TTGCTCGAT ATCAATGTCA CGGTGATTC GTTTATTGAT AGGTTGAAGC GGAAGCAGAT 540
 TACTGGCAG TACAATGTGT CGCTGGAGAC GTTACAAAT CTGATGGGTT ACCTATCTGC 600
 CATCCGGTGG TCGACGAAGG ACGARTCAT TGAACAGATC CGTCTACTC 649

(2) INFORMATION FOR SEQ ID NO:157:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 641 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1060RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:157:

GATCTGCTCA TACTGAGCG CCAACTGGTC GTACTCCGTA TGCAAAACAT CTGTGGTTTC 60

CTGGAAGTGC GGCACCTTGA GCGATATCTC ATTAAACTTG GTAACCAGCT CTCCCAACTG 120
 ATGATTGACT GCACTGGTTT CCGTCAGCAG GTCTCCAGT TCGCCAGTTC TGGTGTCAC 180
 5 TTCCGCCACG TATCCGCTGT ACAATGTATA CTCGTCTGTC GCAGACCCCA GARCAGAAGC 240
 TCGCCGCCAC TCTGGCGCCA GCAGCTCAAT TACCTGAGGT TCAATCTCTG TTTCAACCGT 300
 TGCCAACAGA GTGTCTACTT TTGGCGTAA CGAACTATCC CCAAAAAGCG GAGGCAGCTC 360
 10 ATCGTGAGAR GARGCACCGG GATTTCGCCG TACATCTGT ATGACTGART TCTTCGGCT 420
 CCTAAGCATG GTGCAGTTC TGGCTCAACG GCTTTCTTCC TGGTGARGT CTGCAGTGGT 480
 TGTGCTTAT GCGCAAGCAG AATACCATGT TGAGCCGGCG AAATCTCATC ACGTGATCAT 540
 15 CATCTTGCAA CGCTCGGAR GACRGTGATG CACTGTTCOA TAGGCTTAGG GCGCAATTAT 600
 ACGCTAGCTA GTTATATGA TAATATGTAC ATGATGCCCT C 641

(2) INFORMATION FOR SEQ ID NO:158:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1060UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:158:

GATCTTGGCG TCCTTCTTGT CCAGCTGTAG GTCGGATGA GGGTACGGCT CGCTCAGSTA 60
 35 CTCCAGCCGC AGCTCGCCGC TCTCCATGGA CGCTCCAGG ATCGAAGGCG CCGGCACAGC 120
 CTGGAGGGG ACGGGCGGCT GCAGGAGGGG CATCTCTGT CGCTCTGGT GCATCTOCAG 180
 CGCCGCAGCG CTCGGCTCCA GCGCCGGGTC GAAGTACTTC ACAITTOGTCA GCGCCGACTT 240
 40 GTACAGATTG AGGATGCAGC CCTTGAGCTG CGCACGGTGC AACCGGTACG CAGTCGGGAC 300
 ATACTGGTAC CGCTCGTCC CCGCTCCCGT GAAGTGCGGC CGCTCCGATC CGATCGAAGA 360
 CAGTGACGCT GTTGGCTGGT GGCTGTATCG CCGCTCGGC GCGGCGGCTG CGCCCTGGCG 420
 45 CTGTTCACC CACCCGAGCC GAAACACAGT CCGTCTGTAC GTCTCCCGGT TCAGCCCGCC 480
 TCCAGTGC ACCGCGGARC CCGCCGGCTG CGARCAAGGC GACACCTGCT CCTCGCAGCG 540
 CGCACCCGCC TTCATGTCTT CACATGTGAG CGTCCGCTTG TGGGCTTGCC CCGTNGCAC 600
 50 CTGTTAACTG CATCCGGGTC TGTTGGCTGC TGCTGCTTGC TGCTTGCTT 649

(2) INFORMATION FOR SEQ ID NO:159:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 570 base pairs
- (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1061RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:159:

GATCTGCTTT TGTAAGTATT CATCAGCTAA ATACCGTAAA GCTGGTTTGA ACGGAGGTCC	60
TGCCTTGTGC TCATATATTA TAGAAGTATC AATGACGAGG GGATGCCGCA TTTTCAAGAC	120
15 GTTCAAGTCG GCCTGCAATG AATGGCCGAT AAGCACATCT GTTGGCCTTA TCATCCGCAA	180
GAGATCCTGT TGGACGTCTT GCAAAGTGGT GGTCACCCCG ACCAACTTCT CCTCTGTAAT	240
ACCGCTGTAC TTCTGCAAGT AGTCCACAAT GGGCTCATCT GGCTTGACAA ACTTGTCATA	300
20 AACTAAGTTA CAATCAAAAT CGACGACGCT CACACGCGTC AACACGTATC CGT'TTTTGA	360
AAGGCACATC TCACAGTCCA TGGCAAACGT GTGAGAACCG TCGTGTGGA AACTGACAGT	420
GTCACCCAC CCACTGCACT TCTCCTTATT CTGATACTTT AGCAACAAAG CCTTTTGGGT	480
25 ACTCCTCCGA TAAGCCAGGT GTGT'TTAGAT GGATGGGGTA CTCATTATGC AATAAGTCAA	540
CAACGGGCAT AGCAAATCAA GCAAGTGATT	570

(2) INFORMATION FOR SEQ ID NO:160:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 522 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1062RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:160:

GATCTCGGTG ACGTGGCGCT GGTATGGCTT CATCCAGTCG CCGTCAACA AGAAGTTTCT	60
45 GTTAACGTGC AAGTTACAGC TGGTGAAGGA ATCAACCTCT GGGCCACCG CCTTGATCAC	120
CTCTGGTGTG TTCAAATACT CCTCACTGTA CTTCATGTCA TCGTAGCAGA GCTGGCCCTC	180
ACACTCCTTG CGAACGTGGT AGACGTTCTT ACCAGTTCTC TGGAACGGCG TCAACTGGTT	240
50 GCCATTACAG TACAGAGAGG CTGGAACACA CGACCACAG TTCTGCAGG TGTAGCATGT	300
GCGGATCAAA CGCAAGCACC GTGGCAAGGT CTCGTTTCATT GCGAGCATT GCTCTGGGOC	360
AAGAATGGCG GGTTCGGCGC CACCACCGCA GGCCATACGC TCGTAGTAGG GGTACTGTGT	420
55 CAATGGGTCT GTCAACCCGT TCCCAATTAG CACAGAGCTC AACTTAAACG AGCCCTCTC	480

GCCTGGGTGC GACAAGATCT CGGCAGCAAT AGCAGGAATG TG

522

(2) INFORMATION FOR SEQ ID NO:161:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 633 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1062UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:161:

GATCCTGGTT GTATCATAGA GAATGAACAT ATTGATAAAA AAATGCTACT GTGTACAGTA 60
 ATGTCTGAAC ACCAACATGC TCTTTTCTTG TATTAAATGA TGGATAACG AAGTCTTGGA 120
 AGAATCCTGG GCGAAATAG TAGACATGTT TAGAGAGATT TTTGTAATGG CTAGAGTCGG 180
 TTTTGATGCC CGAAAAAGAA GTGCCAACAT TTAATTTTGA AGGTTTATCA GGTAGGTCAG 240
 GGAATATACT ATCCTCGTAT AAACCCCTGA TTGTACTTGC AAGGAGCTCC AAGTCGTCTG 300
 AGTTAGGCGA TGGTTCATCT TTAGTGTGAG CATGACGAG GACCTCACAT GTGATTCTCTG 360
 AGTCAATTGC ATCTATGACC TCTCCATTCA CAATCAAGCC CATGGGTCCA ACCTCCTTGA 420
 GAGCGCCCTT GATAAGCTCA GTACGCAGCT CGACCGAAGT ATCCAACGTA ACTGACTCCT 480
 TTATTTTGA TTCAGATAT TCGGCGCGCA CTGCATGTAT AGATCCCCCA TGAATAAAGG 540
 AGAATTGCTG CACAGTAGTA AACGCAAATC CCGGTAAATT AGTTGGTTGG CTTCCTTAGGA 600
 AGTCAGTGAA CCGATTATTT GCGTCCTGAT CCT 633

(2) INFORMATION FOR SEQ ID NO:162:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 505 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1063RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:162:

GATGACTTGG ACCGTCACCC GGTACTGGTC GTACTTGTGC ATGAACTGGT CCTGTAGTTC 60
 CCCAGTTTCG TAGATGAGCA CGCCAGTTT GTGGTTCACG TCGACACAT CGTCGTCTGT 120
 GTCCATGCCC CACATGACA GCTGCCGCGC AGCGCGCGC CGTCATTGG CCACCACTTC 180
 CAGCGCACGT AGCACCCCTT TTTCGTTCTT CACGAACGAA GACAGCTTCC GTGCCAACTC 240

GGGGCCAAAG TTTCCCGCTG CATTCCTTGG GAACGAGGAA GCAATCCCGG CACGCCCAAA 300
 GAACTTGGAA CGTGTGGAAG AGGGTGGGG AGGGGGTGAC TGGAGGTCTG ACGCAGTAGG 360
 CGCCTTCTGG TTTCTCAAAG AGTATGTTCT GTGCATATTC TCGTGCTTAG ACTGGTCTGG 420
 CAGTCGGTAT TTGTAGGTCC GATAAGATTC TCAGACGACA GCAAGTAAAG TACAACGGTG 480
 GTCGGTGCCC CTCCAACGTC TTTTT 505

(2) INFORMATION FOR SEQ ID NO:163:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 631 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1063UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:163:

GATCTTAATA GCAATAGTCG ACTACAGGAA ACACAAGCTT TCATAATGTC GAAATCTTTA 60
 TCATGGGATA CACTAGACTA TACTCTACAA CCATGGATTC GTACTGCTGT TGATGCCATG 120
 GGTATGAGA CCATGACACC TGTACAGGCA TCGACGATCC CGCTATTTGC CAGAAACAAA 180
 GATGTGGTTG TAGAATCTGT GACCGGTTG GGAAGACCG TGGCATTTGT CATACCTGTA 240
 TTGGAGAGAG TGATACAGGA TGATGCCAAT AGTTCAAAGC TCAAAAAAGG CCACTTCCAC 300
 ACCATAATAA TCTCCCTAC GCGGGAGCTT GCATCACAGA TACAGGGCGT GATTGAAGCG 360
 TTTCTGACAT ACTATCCAGA TGGAGAATAT CCTATAAAAT CACAGTTGCT TATCGGTAGC 420
 AATACCACTA GTGTCAGAGA TGATGTTGCA GCGTTTTTGG AACATAGACC GCAAATTTTA 480
 GTTGGTACGC CTGGAAGGCT ATTAGACTTT CTTAAGATGC CAAACATCAA GACGTCTTCA 540
 TGTGGCCGAG CTATTCCTGA TGAGGCGGAC AAGTATTGGA TATGAATTTG AGAAGGATGT 600
 CCAGACAATA CTGGAGATGC TACCAAGCCA A 631

(2) INFORMATION FOR SEQ ID NO:164:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 626 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG0164I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:164:

GCAGGAANTG GGTAGCCAAG AACCCGCAAA GACCTTCCCG AGCTACAACC GCCTCATCTC 60
 5 GCAGGTGTTT GGCATCTGCG TCAGCATGGC CGGCTGTATC GGGTACGGCT GGGGAATTCA 120
 ATTTCACTAT CACATCGCTA TGTGCTATT CTTTCTTTT CTAATGGCGT TGGTATGAC 180
 CTGGTGTCTT AACTCCACCA TGACCTTCTT TACGGAGTCC AACCCAAAAA GAGCTGCCCG 240
 10 TACCATTGCC GTAAGCAACA GCTTCCGCAA TATGCTGCC GCCATCAGCT CCGCCATTAT 300
 TTTCAAACTA TGCAACGCCA TGGGCGTTGG ATGGTGTINT ACAGGCTTGG GTCTAATCGA 360
 CTGCTATCC ATGTTGAGCG TCTATTACTT GATCCGTAAT GGGCGGAGA TTACAAGGAT 420
 15 AGCTGCTGAG CTATGATATC ATAACACATC CGCATTTTTA CGGATTTAGA TAACCAAAAC 480
 AGCATANTTA GCATGTTTAG AATCTATCAG AAGAACCTCC CTGTGTCCTT TAATGATTAA 540
 TTTGAACAGT CATTGATTCC GTCTTTGAC CAAGAAGTGA GCACGTGATA TCCGCTGACG 600
 20 CCGAAACGGC GTGCTGTGTC TTTCAC 626

(2) INFORMATION FOR SEQ ID NO:165:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 394 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1064I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:165:

AAAAATCATT TTTATCACCA CTCAAGATGC AGTCTGATTG AAGTGTAAG CTGCAGTAGA 60
 AGAGACAAGT AAGCCATCAT GAAGGTATGT TATAGGTGCT AAGTTCCTGA TACNAGCACA 120
 40 GTGGGCATGC TAGGGCTGCA GAGACAGGC ATGGCGTGT TACGATAGCC GGAGACTCCG 180
 ATTGGCGGC TAGCGGAGG TTAGCGCGC GTTGAAACGA TAATGGGTGC CAGGACCGG 240
 GCCACGGCG CACTGATGCT TGTATTGTTT GGCATGAATC TGATACTAAC ATTCTGTAG 300
 45 TTGAACATTT CTTACCCAGT TAATGGTACG CNAAGACCA TTGAGGTGCA TGACGAACAC 360
 CGTGTCCGTG TCTTCTACGA CAAGAGATT GCC 394

(2) INFORMATION FOR SEQ ID NO:166:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 559 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

55 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1064RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:166:

	TAGTGGATCC AGCATCCCGT CTCGACCAGT CCTGAGTTCC GCGGGCTCTA TCCTAGACCG	60
10	CCAAAGCCCA GCTTGAAGAC GTACTGGGAG ATCGTGAAGG AACCAAACCT CACTATATGT	120
	TCCTTGAGCA CAGCGCTAAT GTTGGCCACC TACTATGGGT TCAGCGTCAC GTTCGCCAC	180
	TACTTGAAAC TTGACTATGG CTTCAGTAAC CTTGGGATCG GCGCGTGCTA TGCTGTCCA	240
15	GCGTGGCCC TAATGATGGG CTCCTCTCTG GCGGTCACA TTTCGACCG CTTCGCGAGG	300
	AAGTGGGTAG CCAAGAACC CGGAAGACC TTCCCGAGCT ACAACCGCT CATCTCGCAG	360
	GTTGTTGGCA TCTGGTCAG CATGGCCGGC TGTATGGGT ACGGCTGGG AATTCAATTT	420
20	CACTATCACA TGCTATCGC GCTATTCTTT TCTTCTTAA TGCGTTGGG TATGACCTGG	480
	TGCTCTAAT CCACCATGAC CTTCTTAGG GAGTCCAACC CAAAAGAGC TGCCGGTACC	540
	ATTGCGTAAG CAACAGCTT	559

25

(2) INFORMATION FOR SEQ ID NO:167:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 611 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1064UP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:167:

	GATCTGTCT CCGCCGCTA TGGGCCCTGC CTGCGGCGAG AGGAGATCG TCCTGGTGG	60
40	CCTAGGCTAG GCACGGCCCT AGGCGGAGCT TGTCTGCGG AGGCGCGGCC GGCTGAGCCC	120
	CGTGGCGAG GCGGCCAGCC CGTGAGACGG TAGCGGCCCG CCTAATGCTT CCTACGCAGC	180
	GACCGCGCAG CGACCTGCA CGTTAGTAAA AAATCATTTT TATCACCCT CAAGATGCAG	240
45	TCTGATTGAA GTGTAAAGCT GCAGTAGAAG AGACAAGTAA GCCATCATGA AGGTATTTTA	300
	TAGGTGCTAA GTTCCCGATA CAAAGCACAG GTGGGCATTC TAGGGCTGCA GAGACAGGCC	360
	ATGGCGTTT TACGGATAGC CCGGAGACTC CCCATTGGGC GGGCTTAGCG GGAGGGTTAG	420
50	CGCGNGTTT GGAAACGAAT AATGGNGTC CAGACCGG GCCACGNGG GACTGATGCT	480
	TGTTTTTGT TGGGAATNAA TCTTNATACT AACAATCCN GINGGNGGA CAATTCTTAC	540
	CCNGTTAAT NGGTACCAA AAGACCATGN AGGTGGNGT ANGACAACN NNTCCNNNT	600
55	TTCTTNGAN A	611

(2) INFORMATION FOR SEQ ID NO:168:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 615 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1065RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:168:

GATCTGTAGT TTGGCAGTCC CTGATGCGGT CCGCCAGAGC AGGCAGCGCC GGGCAGGGTC 60
 TGGCAAGGC AGGCGTTGTG TCACCGCGGA GCCACTCTCT GGGCAGGCAG TTCCACGCGT 120
 CCTGAACGAG CGCGGGCATG ATGGGGCCCA GAATGCTGCG ATAGGCATCC AGAATGTGGA 180
 ACAGGGTGTG CTTTATGGCC AGACGCGTCT TATTATGTGG GGGTTCCATG TAAAGCGTGT 240
 CCTTCGAAGC ATCAAAGTAG AGGACAGGT CGTTGCTCAT GTGGTACAGA ACAAAGACTG 300
 ATGACATTGG AGTAGGTCTG GGATTCCGCA CAGACCCCTGA CACTTGGGGG GCAAAATTCT 360
 TTGTCTGTG CAGGGNTTTT CCNTCANTC CCNNGGCAGG TGGGGGCAGN CTTCCCGNGG 420
 GCAAAAAGG CTNTTCCCA CCNAGATNAA CCCTGGGAA ANCCGAAGG TGNCANNAT 480
 TNAGNGAAG TNCCCTNACC NCTCCACNA ATCGGAAAAA TTGGGGANNA ANGCCCCANC 540
 CCAACNCCA AANTTTTCTT GGAAAAAAA AGGGGNGCCC CACCCNGGNG GANTNANTTT 600
 TMTCCCCCCC NATCC 615

(2) INFORMATION FOR SEQ ID NO:169:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 604 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1065UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:169:

GATCTCTTCC CTTCGATCAT CCTCAGTTG GGTTCGTAGT CCATCGATGC GTTGACGCAG 60
 TTGGCCACAC AGTTGCAGAA CGCACAGGT GCAGCTCCAG CAACCGAGG CCATGAGGCA 120
 GCGGAGAAGA AGGACAACGA CATCCAGAG TTGATTGAGG GCCAGTCTTT CGACGGGAT 180
 GTTGAATAAG TGGCTGTGC GAGGACTGTG TTCTGCGCCG CCATCTCAGA ATTTGTCTAT 240

TTCTGCAGGG AATATACATA TATTGAGTGC ACATATGGAT ATTATGTATA TATATGTACA 300
 TACACTATAC CCGCCCCGTC TTAGTGGGAC CACATAAACC TACGGGTGGG CCCCCCTATA 360
 5 TCGTTTITACA ATAAACGGCG CGNCTTGGG GGNVINCITC GANAATCTCN TTGGGGGGCC 420
 CNCNCNCNT TANNAGGTNC TTCTNCCGGG TNGGAAGTNA AAAAGCINNIN GTTCNGTITGN 480
 NAGNGTCCCC GGGGGAANC CNCCCCGNG GNGGATTTTC NCCAAACCG NAGAAACNN 540
 10 CNTTCNCCA AGTTGCCCCG GCGAGAAAAA AANCCNATCN NGAAGNAAAA TTGCCCCCTG 600
 CCGN 604

(2) INFORMATION FOR SEQ ID NO:170:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 653 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1066RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:170:

GATCTGAGG CCTCACTAAG CCATTCATC GGTACTAGG ACGGGCGTG TGTACAAAGG 60
 GCAGGACGT AATCAACGCA AGCTGATGAC TTGGCCTTAC TAGGAATTCC TCGTTGAAGA 120
 30 GCAATAATTG CAATGCTCTA TCCCCAGCAC GACGGAGTIT CACAAGATTA CCCAGACCTC 180
 TGGGCCAAGG TTATACTGCG TGCTCCGTC AGTGTAGCGC GGTGCGGCC CAGAACGTCT 240
 AAGGGCATCA CAGACCTGTT ATTGCCTCAA ACTTCATCG GCTTGAACCC GATAGTCCCT 300
 35 CTAAGAAGTG CGCAACCAGC AAATGCTAGC AGCACTATT AGTAGGTAA GGTCTGTTT 360
 GTTATGCAA TTAAGCAGAC AAATCACTCC ACCAACTAAG AACGGCCATG CACCACCACC 420
 CACAAAATCA AGAAAGAGCT CTCAATCTGT CAATCCTTAT TGTGTCTGGA CCTGGTGAGT 480
 40 TTCCCGTGT TGAGTCAAAT TAAGCCGAG GCTCCACTCC TGGTGGTGGC CTTCCTGCAA 540
 TTCTTTAAG TTTCAGCCTT GCGAACATAC TCCCCCAGA ACCCAAAGAC TTTGATTTCT 600
 45 CGTAAGGTGC CGAGTGGGTC ATAAGAAAAC ACCACCCGAT CCTAATCGG CAT 653

(2) INFORMATION FOR SEQ ID NO:171:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 669 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1066UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:171:

5 GATCTGGAGG ACCTATATAT ACCATTTCGC TGCACCTTTC TTTTGTGGCC TGATGTTTAA 60
 TAAGTAGACG ATCTCTGATT ATTATCGCGA GGTGCTTAAA GTCCCATGCG AGCACACTGT 120
 TTGCAATGAT GGCATCGCC CACCAGACCA GTCAGAAGTA GATATCTGAA TTGCATGTGA 180
 10 OCCATACTAG GGTGACCTGT GTTGGCGGCC AGCTTGCCAG AGGAAGAAAA AAAAAAGATT 240
 GCAGCACTG AGTTTCGGCT ATGGTCACCC ACTACACTAC TCGGTCAGGC TCTTACCAGC 300
 TTAAGTACAG TTGATCGGAC GGGAAACGGT GCTTTCTGGT AGATATGGCC GCAACCGAAA 360
 15 TATATAGCCT AGAGCAGACA TGATATCAGA TGGTGGATGC ACGTGAGGGC GTAGACATGT 420
 AATAACGATA TCGAGTACAT TTGGTGCCAG ATGGCTGGGG CTATGGCGCA GATGTGTGGT 480
 AATTGGCACA TCGGGTAAG TCACGGGTA AGAAGAGTTT GTCGGCATTG GAGTGCCATT 540
 20 CCGTACCGAA TGTACGCTAG TGATCTGAAA AGTGATATGC TATGTGAAGT GCAAAGTATG 600
 GGAAGTCTGG CTGGGGTTAR GAAGAAGATG TCRACCTGCA GGCACCGGAA CGTCCGARCA 660
 ATGCTTTGA 669

(2) INFORMATION FOR SEQ ID NO:172:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 652 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1067RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:172:

40 GATCCCTTAA CTTTCGTTCT TGATTAAATGA AAACGTCTT GGCAAATGCT TTGCAGTAG 60
 TTAGTCTTCA ATAAATCCAA GAATTTCACC TCTGACAATT GAATACTGAT GCCCCGACC 120
 GTCCCTATTA ATCATTACGA TGGTCTTAGA AACCAACAAA ATAGAACCAA ACGTCTTATT 180
 45 CCATTATTC ATGCTAATAT ATTGAGCTT GCGCTGCTT TGAACACTCT AATTTTTTCA 240
 AAGTAAAAGT CCTGGTTCGC CTAGAGTACA AGTACCTAG GTTAGCCAGA AGGAAAGGTT 300
 CGGTTGGATC CCGTACACGA AGAAAATCGG ACGGCCAAC CAAACCCAAA GTTCAACTAC 360
 50 GAGCTTTTTA ACTGCAACAA CTTAATATA CGCTATTGGA GCTGGAATTA CCGCGCTGC 420
 TGGCACCAGA CTTGCCCTCC AATTGTTCTT CGTTAAGGTA TTTACATTGT ACTCATTCOA 480
 ATTACAAGAC CCGTATGGGC CCTGTATCGT TATTTATTGT CACTACCTCC CTGAATTAGG 540
 55 ATTGGGTAAT TTGCGCGCCT GCTGCCTTCC TTGGATGTGG TAGCCGTTTC TCAGGCTCCC 600

TCTCCGGAAT CGAACCITAT TCCCGTTAC CCGTTGAAAC CATGGTAGGC CA

652

(2) INFORMATION FOR SEQ ID NO:173:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 669 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1067UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:173:

GATGGGTAG TGAGGGCCTT GGTGAGAGC GGCAAGTGTG CTGTGGTCT GTCTCGGGG	60
GCTTGCTCCT GGGGACGGAC TGCTGGGIG CTCTGTGTA GACGGCCTTG GTAGACCATC	120
TCTGGTGTC GCTTGCTACA ATTAACGATC AACTTAGAAC TGGTACGAC AAGGGGAATC	180
TGACTGTCTA ATTAAGCAT AGCATTGCGA TGGTCAGAAA GTGATGTTGA CGCAATGTGA	240
TTTCTGCCCA GTGCTCTGAA TGTCAGGTG AAGAAATTCA ACCAAGCGCG GGTAAACGGC	300
GGGAGTAACT ATGACTCTCT TAAGGTAGCC AAATGCTCG TCATCTAATT AGTACGGCG	360
ATGAATGGAT TAACGAGATT CCCACTGTCC CTATCTACTA TCTAGCGAAA CCACAGCCAA	420
GGGAACGGGC TTGGCAGAAT CAGCGGGGAA AGAAGACCTG TTGAGCTTGA CTCTAGTTTG	480
ACATTGTGAA GAGACATAGA AGGTGTAGAA TAAGTGGGAG CTTGGCGGCC AGTGAAATAC	540
CACTACCTTT ATAGTTTCTT TACTTATCA ATTAAGCGGA GCTGGAATTC ATTTTCCACC	600
TTCTAGCAIT TAAAGTCTA TACGGGCTGA TCCGGTTGA ARACATTGTC AGGTGGGGAG	660
TTTGCTGG	669

(2) INFORMATION FOR SEQ ID NO:174:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 596 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1068RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:174:

GATCCACCNC TNNCCATTC AATCGGTACN ACTGACGGG CGGNTGTNN AANCGNCCG	60
GACCTAATCA ACGANAGCTG ATGACTAGAC GCTTACTAGG AATNCGTCCT TCAAGANCAA	120

TGATTTGCTC TGTNTCTATC CCCAGTCATT ACNGNCTANC AGACATGATC CTCCATGATC 180
 TGTGGGTGCT GTGTGGTATN CCGCAGGACN CCGNCTGTGT ACCGGGGGTG CGGCCCAGAA 240
 5 NNTCTANGGG CCTCCCAGAC NTGTTATNGC CTCTAACTTN CATCGGNTCN ANACCGANAN 300
 TCCTNCTAAG ANGTGGGCNA CCAGCANNTG CNNOGNGCNC TATTTACTAG GTTAAGGTCT 360
 CGTTCGTAT CNGCNTTANT CAGACAAATC ACTCCANCN CTAANAACGG CNNTGCCCCN 420
 10 NCNNOGNGAA NNINNGAAA CANCTCTCAT CTGTCAATCC TTATCGTGTC TGGACCCGCT 480
 GAGTTTCCCG TGTGAATCT AANTAANCCG CAGGCTONAC TCCTNNITGGT GCCTTCGGTC 540
 NATTCCTTAA AGTTTCAACC CTGGGACATA NTCCCCCAGA ACTCANAGAC TMTGAT 596
 15

(2) INFORMATION FOR SEQ ID NO:175:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 641 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1068UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:175:

30 GATCTGGAGG ACCTATATAT ACCATTTCGC TGCACCTTTC TTTTGTGTC TGATGTTTTA 60
 TAAGTAGACG ATCTCTGATT ATTATCGCGA GGTCGTTAAA GTCCCATGGG AGCACACTGT 120
 TTGCAATGAT GGCCATGGC CACCAGACCA GTCAGAAGTA GATATCTGAA TTGCATGTGA 180
 35 GCCTACTAG GGTGACCTGT GTTGGGGGCC AGCTTGCAGG AGGAGGAAAA AAAAAAGATT 240
 GCAGCACCTG AGTTTCGGGT ATGGTCACCC ACTACACTAC TCGGTCAGGC TCTTACCAGC 300
 TTAAGTACAG TTGATCGGAC GGGAAACGGT GCTTTCCTGT AGATATGGCC GCAACCGAAA 360
 40 TATATAGCCT AGAGCAGACA TGATATCAGA TGGTGATGC ACGTGAGGC GTAGACATGT 420
 AATAACGATA TCGAGTACAT TTGGTGCCAG ATGGCTGGGG CTATGGGCA GATGTGTGGT 480
 AGTTGGCACA TCGGGTAAG TCACGGGGTA RGAAGARGTT TGTGGCATT GGAGTGCCAT 540
 45 TCGTACCGA ATGTCACGTA GTGATCTGAA AAGTGATATG CTATGTGAAG TGCAAAGTAT 600
 GGAAGTCTG GCTGGGGTTA AGAAGARGAT GTCACGCAA G 641

(2) INFORMATION FOR SEQ ID NO:176:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1069RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:176:

GATCGACCCC GGTCCCGCTC GCATCAGCGA GCTGCCCGTG CGATCAGCA GCCCCTGCC 60
 TAGCGACCCG CCGATGGCTA TCATCGACAC ATGACGTGCC TGCAGGTCTT TCTTGAGCCG 120
 GATGCCCTCG TGCTTGCCAT CGTAGTTCOA GTCTACGGAC TGGCCCTCTT GGTCTGTGCT 180
 GCTGTGGGTA TCCCGCAGAC CGCGGCCCTC ACCAGCGCGG GCCAGCTTGG GGCTTTTCAA 240
 CTCGTCCAGC GTGGACGCTT CTGATGCTTG TGCGAACTTC TCTTCGGCCA TAAGTGGCGA 300
 GCTGTTATCT ATGCTACTCA AGCTCCCGCC GTATAGCTTT GCTATATATA CTTACGCTGC 360
 GACGCCCTAT TCCGGACACA GCTATATATT GCGCCGCGGT CTCGGCGGCT GCTTGGGGAG 420
 CCGACTGACC CCACCTGAT AGTGGCGTTG CACTTCTGCT GGGCGGCTC AGCCCGTTCA 480
 GCGTCCGACT GTGACATCGG GCTGGCGGAG CGCGATTAAAT CACCCGACTG GGCTGCATGC 540
 CGCACTAAAC CTCCTCTGCG GCGCGAGGGC GCGCTTATCG CCTCCGTGAT GACGTACGTA 600
 TGTATTATCAA AGATCCGGAG AMCTGTTCOA GGCTCTACG TTGGGATAAG AGGC 654

25

(2) INFORMATION FOR SEQ ID NO:177:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 708 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1069UP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:177:

GATCTTTCTG CCTTATCAG GGATGGCACC ACCGGTCTTC ACCTCGTTTG ACTTGTAGCC 60
 ACAGTGCTCG CAGACCGTGG ACATGATGAT GACCTCTTTG AAGTGTGGGA TGTTGACCGG 120
 CTTCATATGC GTGTACATG GGTGAACACA TGATGGGCAC GTGGCAGTGA AGGTCTGCAC 180
 CTCGTGTGCG AAGTCTCTGA TATCCGTAGC GTCAGATAAG AGACCGGCTT GTGCCGCTTG 240
 CGATTGTGTT CGCTCGCGCT GCGACAGCTC CGCGCGCTTC TCTTGACGCC GTTGCTCCAA 300
 TTGGTCGCGC GTAATGATGC CCACCTGGAC GTTTTGCTCA TCTGAACGCA GGTACTCGGT 360
 TTTGGACCAT TTTGGCGCAG CTTGCGCTGG CTTGTATTG ATCCAGGAAT TGCCAGCAGG 420
 GTCGTCCAGC GTAAAAGTCA GCGGTAGAGT GCGCGGCTCG CACGACAGCG CAGCGCGGAC 480
 CTTGGCAATG AACTGCGCAA TCTGATCGTA CAGGTCTCTG TCCACTTCTT TCCGCGCGGC 540
 CTGGTGGCGC TCCAAGTCTT CGATCATCTC GTTCAGCAGG CCTCCACAG TCGTCAGCTG 600

55

GCGCGCGCTTG GGAAGAATCT CCAGGTCCAA TTCAACGAAG CGGGAAGCCG CAGTTTCGGC 660
 5 CTTGATGACT GCGTGTCAAA ATCGGCGCTTC TCTCAACCT TCAGCTGA 708

(2) INFORMATION FOR SEQ ID NO:178:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1070RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:178:

20 GATCCCGTAC ACGAAGAAAA TCGGACGGGC CAACCAAACC CAAAGTTCAA CTACGAGCTT 60
 TTAACTGCA ACAACTTTAA TATACGCTAT TGGAGCTGGA ATTACCGCG CTGCTGGCAC 120
 CAGACTTGCC CTCGAATTGT TCTCGTTAA GGTATTTACA TTGTACTCAT TCCAATTACA 180
 25 AGWCCCGTAT GGGCCCTGTA TCGTATTTA TTGTACTAC CTCCTGAAT TAGGWTGGG 240
 TAATTTGGC GCGTCTGCC TTCCTTGGAT GTGGTAGCG TTCTCAGGC TCCCTCTCG 300
 GAATCGAACC CTTATTCCCC GTTACCGGT GAAACCATGG TAGGCCACTA TCCTACCATC 360
 30 GAAAGTTGAT ACGGCAGAAA TTGAATGAA CCATCGCCAG CACAAGGCA TGGGATTGA 420
 AAAGTTATTA TGAATCATCA AAGAGTCGA AGACATTGAT TTTTATCTA ATAAATACAT 480
 CTCTTCCAAA AGGTGAGAT TTAAAGCATG TATTAGCTCT AGAATTACCA CAGATATCCA 540
 35 TGTAATAAAG GAACTATCAA ATAAACGATA ACTGATTAA TGAGCCATTC GCAGTTTCAC 600
 TGTATAAATT GCTTATACTT AGACATGCAT GCGTTAATCT TTGAGACAAG CATATGACTA 660
 CTGGCAGGAT CAACCAGATA ACTATCTTAA AGAACAAACC GAA 703

(2) INFORMATION FOR SEQ ID NO:179:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 675 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1070UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:179:

55 GATCCTTTAG TTCTCGGAG TTTGAGGCTA GAGGTGCCAG AAAAGTTACC ACAGGATAA 60

CTGGCTTGTC GCAGTCAAGC GTTCATAGCG ACATTGCTTT TTGATTCTTC GATGTGGCT 120
 CTTCTATCA TACCGAAGCA GAATTGGTA AGGTTGGAT TGTTCACCCA CTAATAGGGA 180
 5 ACGTGAGCTG GGTTAGACC GTCGTGAGAC AGGTTAGTTT TACCTACTG ATGAATGTTA 240
 TCGCAATAGT AATTGAACTT AGTACGAGAG GAACAGTCA TTCGGATAAT TGGTTTTTGC 300
 GGCTGTCCGA CCGGCCATTG CCGCGAAGCT ACCATCCGCT GGATTATGGC TGAACGCCCTC 360
 10 TAAGTCAGAA TCCATGCTAG AACCGCATGA TTCTTTTCTT CCGACATTAT AGATGGATAC 420
 GAATAAGGTG CTTTATAGCAT CGCTGAACCA TAGCAGCCCG GCAACTGGTG TTCANACGGA 480
 AAGGTCTGGG CCGGTGCCGG CGGATTGCAA TGTCACTACTG CCGGAGAGTA AATCATTGT 540
 15 ACACGACTTA RATGTACAAC AGGTATTTGT AAGCAGTARA GTAGCCTTGT TGTACGATC 600
 TGCTGAGATT AAGCCTTGTG TGTCTGATTT GTTTCTATT TGAAGTCTG CAGGAGCAGG 660
 CTTTGAATA RAGTT 675

(2) INFORMATION FOR SEQ ID NO:180:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 498 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1071RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:180:

GATCTGNGGG GGAAACNCAG CATTACCGT TGTGCAAAA GATTTGACTG GTAACATCAC 60
 CAAGCTTCGC AACAGACAAT TGTOGCACCC CGGTGAGTCT GCAACCCCTGC AGGAGCTTGT 120
 GATTGCAGAG CGTGACACAG GCAGCAAGAC TGCTTCGGAA GGGCTGCTGT GGCTCACCAG 180
 40 AGGCCTGCAA TTCACCGCGC AAGCTCTTAG AGAAACGCTA GACCATCCAG AGCTCGAATT 240
 GTCTAAGACA TTCACAGATG CGTATTGGAA GAGGTTGACG AAGCACCATG GTATGCTTGT 300
 ACGTCCGGTT TTCAAAGCTG GCCATGAAAG CTTGCCCTA CAGGAAGGAC TTTTTTGCAG 360
 45 AAAGTAGGCA GCGACCAAGA GAAGGTGAC ACGCAACTTT AAGCAGTGGC TGGCTGCACT 420
 TGAAAAGATC GTAGAGATTG TGCTTCAAAT CCTTGGGGG AAACGTGCAA AGGATTTATG 480
 AGTATTATTA TAGAAGCC 498

(2) INFORMATION FOR SEQ ID NO:181:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 625 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1071UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:181:

```

10  GATCGACAGC CTGGAAGAAG TAGCTCCAC AGCTTCAAAC ACAGCGCACA GGTCTGCATA    60
    CATCAAGCTG GTGCTTCTG CAGGCTTAAC CGGAGAACTT TGTGCGCGTG GCACGGCGCT    120
    GGCAGACTGT GGCAGCACCC CCCCCGGGC GGGCTTATCT GCAAGCTCGG GGAGGATGTT    180
15  CTTCACTCG GGTCTCTGTT CATGGGCTGC CGGTGCGCT AGGCACTCGG GAGACTCTAC    240
    CTTGATTTTC TTGACCTCG CTGTTGAGCT CGCTCCATCT TGAGGCTCT TCAGCGCAGC    300
    GAAGAATCGG ACCAATGTGG CTTGCTTCTT TGGAGTAGAC ATTGGCTGA AGTAAACCC    360
20  TACTGACCTG CCAAATAGCT CCACCTTGGT CTGGCGACAG GAGCTTCNA AGANTGACAT    420
    TNNITGNGN NAAGGCCNN NNNTNNCAA GACGAANTIN NTATCAAGN CCTNNITNCC    480
    CCAGNNA NAAGNAANA NNNTATNNN GGNATNNNN AAATTANGT TNNNNNATNN    540
25  NCTINGNAAA TNNNNNGNN TNNINATTC CNNNGNNT TNNNTNCC NNCNCTNN    600
    GGNTTTTTN NANNINAAN NNCC    625

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(2) INFORMATION FOR SEQ ID NO:182:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 491 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1072RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:182:

```

40  GAGCAACTAT TATTAGGCG CCCCCACCC AGTCTGCAGC ATTGAAAGC CTTCCTAGCC    60
    TTTGTGGGAT GTCCCAAGG ACAATTTTCT CGCAGNIGAA AATACGAAAG AAGCGCAAG    120
45  AAGTGGCTT CTTTGAATCC AACGCCGAC CCAATGATGT CGAGCGGGC GAACATTTTA    180
    TAACAGAGCT CGATAAGGC GATAAGGCG TGGGCTGTT TTCTTUGATC GGCTTGATAT    240
    GCAATAGAAT GCTGGGACA GGTATCTTTG TGGTCCCGC GAAGATCTTC CAGTCGACT    300
50  GGCTCAGTAT ACTTTGCCCT AGGGTTATGG GTACTAGGAG CTTTAATTGC TCTAGCAGT    360
    CTTTATGTTT ACATGGAATT TGGTAACTGC AATACCGCG AACGGTGGC AGAAGAACTA    420
    CCTTGAGTGC ATCTCCAATG AAACCGAAT TCTTCACTTA CAGTCAAGTG TACTCAGCAT    480
55  ATGATCATCT T    491

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(2) INFORMATION FOR SEQ ID NO:183:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1072UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:183:

GATCCGCAGC TTCCGCAAGC GCCGCTTCTC CTCGGTGTAC TCCTGTGTGT CGTGTACTC 60
 CGGCACCATC GACGCTCCG GCTCTCTCTC ATCCGCCGTC GCGTCTTCT CCTGTCCAC 120
 CGTCTCCGC AGAAGAGAGT CGGCTTCTC CCGCTCTG TGTGTCTGC GCTCCAGCAG 180
 AGCGCCCGA AGCGCTGCT CGTCCGGAG CGGCCGAGG TACGGTACT TCACCGACC 240
 CATCTCCGC TCAATCCCG GGATCAACAC CTCCGCACG TACCGTCCA TGATCTGGC 300
 ATAGTGGTAA GATTACCTAA TTCATACGTG TAGATCATCC CATGCTTACC ATGTTGAACC 360
 GTCACCATGT AAATTTCCAA TAATCTCTA GTCTCTCATT TGTAGANATT AGNANTTTC 420
 CTTTATATTA ATNCTTTTAC TNAATAATTN ATNNANNITT TNNTTIGANC ANTTCTCCAT 480
 ATGTATTTAA ANTNATATAT AATATTATTN TCTACTAATC TAACAAATTA NNNTCINIAT 540
 TATATATTTA NNANCATAT NATNATATTA AATTATTTAT AATNATNCTN TCCTCTINTA 600
 ATNTTTAAAT NNANNNNTT TNINCNANNN CTAATNNAIT TTINGATATT TTNNTTNNTA 660
 NNNNNNTAAA AAATATNNNN TTTATCNANT ATCTTCCATT TATNAATCN NTTTTATCA 720
 AACCCC 726

(2) INFORMATION FOR SEQ ID NO:184:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 641 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1073RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:184:

GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60
 CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120

ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAATTCAT TTAATACTCC TCTAATTCAA 180
 TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240
 5 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300
 ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360
 GGTGTGTACC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACTAAT AAAAATAATT 420
 10 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAAA TAAATAATAT 480
 GTTATATTTA AATAGATCAA AATTTCACAA ATTTCCATTT CATTTAGTAC TACCATCACC 540
 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACCTTAG CTTTACTAT 600
 15 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT T 641

(2) INFORMATION FOR SEQ ID NO:185:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 662 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1073UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:185:

GATCTTAAAT TAAAATTTTA ATTAAGTATT TATAATTTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 35 ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300
 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360
 40 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 TTTCATAATA TTTATTTTAA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCTTTAA 480
 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540
 45 TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCN TTTTATTATTA TTAATTTAAAT 600
 TATTATTAAAT TAGTAAATTA TATTTATTTA TTTTATTAAC ATAATTTTTT GNATAATAAT 660
 AT 662

(2) INFORMATION FOR SEQ ID NO:186:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 615 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1074RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:186:

GATCTAAATA TATATAATTT AATTTATAAA GATTAATATA AACTTTTTTA TTATAATATT 60
 TAAGTATTAA ATTATTTAAA CTATTATTAT CATTATTTAA TAAATTAATT ATTTGATTAT 120
 TAATACTTAT TATATAATTA TTATAAATT TACTTAATTC ATCATTATTA ATATTTATAT 180
 AATTATAAAA ATAATATTTA ATATGAATAC TATTTAGTCT ATGTTCAAAT TTTAAATTAG 240
 TTATTAAAAA ATTATTAGAT ATTATTATTT TCTTTAATAA ATTATTAAAT AGATTATCAA 300
 TAATTAATAT ATTATTATTT AATTGTTTAT TAAAATAATA TATTTTATTA TTATAAAGAT 360
 TTAATTTATT TAAATATGTG AAATTATTAT TTTTATTATA ATATCTATTT TTATAAATAT 420
 TATGTTGATT TATATTATTT AACTTTTAT AAGAATTATT ATTAAAATTA ATTTTAACTT 480
 TAACTTCITA TTATTAAATT TTATATTATT TAATAAATTA TATTCAATTT ATTTATTTAT 540
 TTACTTAAAT AAATTAATTA TTAAATTAAT ATTTTATCAT TATTTAATTA ATTAATAAAA 600
 TATTATAAAG AATGT 615

(2) INFORMATION FOR SEQ ID NO:187:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 663 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1C74UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:187:

GATCTTGATA CTAGAGCTTA TTTTACTTCA GCTACTATAA TTATTCCTAT TCCTACTAGT 60
 AITAAAGTAT TTAGTTGATT ACTAACTATT TATGGTGGTT CATTAAAGATT ACTAACACCA 120
 ATATTATATC TATTATCAIT TTTATTTTAA TTTACTGTAG GTGGTTTAAC TGGTGTAGTA 180
 TTAGCTAATC TATCATTAGA TGTAGCATTC CATGATACTT ATTATGTAGT ACTACATTTT 240
 CATTATGTAT TAAGTTTAGG TGCTGTATTC TCTATGTTTG CTGGTTATTA TTATGAAGT 300
 CCTCTTGTTT TAGGTTTAAA TTATAATGAA AAATTATCAC AAATTCAATT CTGATTAAAT 360
 TTCTTAGGTC TTAATATTAT TTTCTTCCTT ATGCATTTCT TAGGTATTAA TGGTATACCA 420
 AGAAGAATTC CTGATTATCC TGATCTATTC CTAGGTGAA ATTTAGTATC TTCAPTTGGT 480

TCTATAATAA CTATTATATC ATTAATGTGA TTCCTTTATA TTATTTATGA TCAATTAATA 540
 AATGGTTTAA CTAATAAAGT TAATAATAAA TCTATTAAAT ATATAAACT ACCTGATTTT 600
 ATTGAATCAA ATAATATTTT CTTAATGAAT ACTACTAAAT CATCATCTAT TGAGTTTATA 660
 TTA 663

(2) INFORMATION FOR SEQ ID NO:188:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 639 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1075RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:188:

GATCTATCTA ATTACAGTAA AGCTGCAAAG GGTCTTTTCG TCTTCTACA AATACTTAGC 60
 ATCTTCACTA AGATTTCAT TCACTTAGA TTAAAGGAGA GACAGTTGTT GTATCATAC 120
 GTCATTCATG CAGGACCATA ATTAGTGGAC AATGAATTC GCTACATTAT AACCTCATA 180
 ATAAGCTGC TATTTAATAA AATTTATTAT TATTATCTTT ATTAAATAT TAATTTTAT 240
 ATTTTATCAT GGAGCAGAGT TCACACTTGA TACTTTAACT TACGTTTCTG CAAAGTGTG 300
 TGTTTTATAGT AAACAGTTGT ACAACTTTGT TCTTATTATT AATTATTATT TTAATTAATA 360
 TCTCTTATT GACTAAGTC AGAGCTATTT TTGCGAGTT CCTTCTCTTT AATTATCTAA 420
 TTCACCTTCA TATACTCTAC TAACATACT GAGTCGGTCT ACATTACGGT ATTTTATACA 480
 TAAATATTTT TTGAACCTAA TAAATTTATA AAGACATTAT TTAAGTTAAT TTATATATTA 540
 GATTATTTCT ATCATATTAT ATTTTTTAAT ATATTACTTA AGAACCGCTT TTATTGTTAA 600
 ACCTTATGCT TTAGGTGATA AGGATTATAC CTATTTTTC 639

(2) INFORMATION FOR SEQ ID NO:189:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 663 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1075UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:189:

GATCCAGTGA CTTAGTAGAA TGATAAAATT AATAAATATT ATTTATTAAT ATTTGGTTAA 60
 CAATAAAATT CAATAATTGA TTAAATAAT GATTAAATAA TCTCAATATA AAATTATTAA 120
 5 TATAATGAGA TATATATTTT TAAAAAGAAT ATATAATTAA ATAATCCCAA CCAAAATTTG 180
 TGCCAGCAGC TCGGTAAGA CAANGGGGGT TAGCGTTAAT CGTAATGGCT TANAGGGTTC 240
 GTAGAATGAT TATTTAAAT AATAATTAGA ATTAATAAAA ATAATTTAAG AATTATTCAA 300
 10 GTAAAGATGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA 360
 TTAATTGACA TTGAGGAACG AAGGCTAAG TAGCAAATCG GATTGATAC CCGAGTAGTT 420
 TTAGCAGTAA ACAATGAATA CCTATTTATT TTTTATTAAT TAAAGAATAA ATTAAATGAA 480
 15 AATTAAAGTA TTCCGCTGA TGA CTACGTT AGCAATAATA AAAATCAAAA CAATAGACGG 540
 TTACAGACTT AAGCAGTGA ACATGTTATT TAATTCOGAT AATCCTCCGA TAAATCTTAC 600
 CATTTTTTGA ATATTTAATT ATAATAATTT ATAATTAATT ACAGGCGTTA CATAGTTGTC 660
 20 TTC 663

(2) INFORMATION FOR SEQ ID NO:190:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 650 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1076RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:190:

GATCTTAAAA TAAGATAGAA TGGTAATAAA TATCATTCAG GTACAATAGA TGCTGGTGTT 60
 ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTCCTA AAGTATTAGG TGAAAAGAAT 120
 40 ACAATAATG AAAAGAAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA 180
 TAACCATGCA TTGGTAATCT ATCTAAATTA CCTGTAATAC CTAATGGATT TGATGAACCA 240
 TGTACATGTA ATAGCAATAA ATGCATAATT ACTATTGCTG CAATAATAAA TGGTACTAAA 300
 45 TAATGAAACA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCCTCATAAT 360
 CATAGTACAA TATCATTTCC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA 420
 GCACCTCAAT GTGACATTTG TCCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA 480
 50 GTTAAATAA AGATAATAAC ACCAACTGTT CATACAATAA CTCTAGGTGA TTTATAAGAA 540
 CCATAATATA AACCTTTACC AATATGAATA TACATACCAA TAAAGAAGAA TGAAGCACCA 600
 TTAAGATGCA TATATCTAAT TAATCAACCT AGTTGTTTCAT CTCTCATAAT 650

(2) INFORMATION FOR SEQ ID NO:191:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 663 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1076UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:191:

15	GATCTAGAAT TATTAAGTCA ACTATTAACT AATAICTATA ATAATAATGG TTTATCATT	60
	AAATCATTAA AGATAATTAT TAATAAATTA CCATTTAATA ATGATATATT ATTATCAAAA	120
	AATTATGTTA ATAAAATAAA TAAATATAAT TTACTAATTA ATAATAATTT AAATAATAAT	180
20	AAAAAAGATT TAATTAATTT ATATACTTTA GATAATAAAT TATTAGATTT AAGTATTCTT	240
	AATAATATAT TATTAGGTAA ATATTTAGTA GGTAGTAATA TCCAATTARR GGTAGACTA	300
	TTAAATAGAA ATATTACTAG ACTAATAAAA ATAAATATTA TGAAAGGTAC ATTTAATAAT	360
25	TATATATATC AATGAAGTAA ATTAAATAAT TTATATAAAT TAAATTATAT ATCACTTAAT	420
	ATTAATAAAC TTAATAATCT ATTTATTAAT AAAAATGGTA TATTTAATAT TAAAATTAAA	480
	TTAAATACTA TTTAATAAAT ATTCTATAAG TAATTTCTTA TTTATTTTAT AACATTTTAA	540
30	AATGTTTTAT GTTAAATAGA TAATAATCAA TTAAATAATA AAAATTGAAG TCCACAAAT	600
	AATCCATTTT CCTTTATGAA TCAATTAACT TATGGTTTNC TATTTATTTT ACTAATTTTA	660
	TCT	663

(2) INFORMATION FOR SEQ ID NO:192:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 642 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1077RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:192:

50	GATCCAGTTA CTTAGTAGAA TGATAAAATT AATAAATATT ATTTATTAAT ATTTGGTTAA	60
	CAATAAAATT CAATAATTTA TTAAATAAAT GATTAAATAA TCTCAATATA AAATTATTAA	120
	TATAATGAGA TATATATTTT TAAAAAGAAT ATATAATTAA ATAATCCAA CCAAAATTIG	180
55	TGCCAGCAGC TCGGTAAGA CAAAGGGGGT TAGCGTTAAT CGTAATGGCT TAAAGGGTTC	240
	GTAGAATGAT TATTTAAAT AATAATTAGA ATTAATAAAA ATAATTTAAG AATTATTCAA	300

GTAAAGATGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA 360
 5 TTAATTGACA TTGAGGAACG AAGGCTAAAG TAGCAAATCG GATTGATAC CCGAGTAGTT 420
 TTACAGATAA ACAATGAATA OCTATTTATT TTTTATTAAT TAAAGAATAA ATTAAATGAA 480
 AATTAAAGTA TTCCGCTGA TGACTACGTT AGCAATAATA AAAATCAAAA CAATAGACGG 540
 10 TTACAGACTT AAGCAGTGGG ACATGTTATT TAATTGATA ATCTGATA AATCTTACCA 600
 TTTTITGAAT ATTTAATTAT AATAATTAT AATTAATTAC AG 642

(2) INFORMATION FOR SEQ ID NO:193:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 658 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1077UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:193:

GATCCGTGTA TTTTITATTT ACATTATTTA ATTAAAAATA ATGATTTAAA TAAATATTTT 60
 TTATAAAAAA TAATTAGTGC ATTGTTACAT GTTCATTAAA GAATGATTAT TATCAAAACC 120
 30 ATCAACTAAT TGTTATATAT TTATTAAATA TTAATTTTAC TTAATTGAAG ATTAGGAACT 180
 TTATCTATTA GTCTGGGCTG TTCCCTTTT GATTATTAAC CTTATCGCTA ATAATCTGAA 240
 ATATTTAATT TTAGATTAAAT AACATATTCT GAGATTTAAT ATTTTAAATA AAATAAATAA 300
 35 TTAFTCCCTA AATAATATTA ATAACATAC CATATATATC TAATATTTAA ATAATCATAC 360
 TAACATATGT TTGCTAGAAA ACCAGCTATT TGCAAATCAG ATTTGACTTT CTCTACTTAC 420
 40 CATTATTCAT CAGATAATAT TGCTACATTA ACCTGTTCAA TCGTTTTTAT ATTTTATTAT 480
 ATTTTAAATA TAATAAATAT ATATTTTAAT CATTTGATAA TAGTAAGATC ATCTGCTTTC 540
 GGGTTAATTA ATATTAACTA AATTTAATTT ATTTTAATTA ATTTTAACAT TGTAAATAT 600
 45 TTATATTATT TTTAATATCA TTTTITATTT TAATATTATG CTAATATTAA TTAATTGC 658

(2) INFORMATION FOR SEQ ID NO:194:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 445 base pairs
 50 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1078I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:194:

5 GATCTAGTTC GTTAACTTCC GCAAAACACC TGTCAAGCCG TTCAACAAAC GTCTGGATCA 60
 GATCCAAGAT GGGCAGTTCT GACTCTGGT CGTCGACAAT GAAAGTAAAA TAGAGTGTG 120
 CATAGTTCTT GTAGATTATT TGGATACTT CGTTAATGGT TTCCTACCA CTCGATAGTA 180
 10 GCGAGGGCGG CGTAATTAAG AATGAAGACT GAATTGAACT GTTGGGCTGG CTGATCAGCT 240
 CGTAAACCTG CTCAGTAGT AGCTTCTGCT TCGGGAGATC GACAGGAGTA TAGTACTTTA 300
 CAAGCCTAGG TTGGCACTTC TTGTAACTT CATGTGTAG TAGGATAATT TAAGTACTGC 360
 15 GGCTGGCGG TGGCAAAGG GTTCACCAT ATCAGGACCG CGNCGNNTCA TCNCGNTCC 420
 CCACCAAGGN TACNCGCNC NOCCA 445

(2) INFORMATION FOR SEQ ID NO:195:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 443 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1078I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:195:

GATCTAATAT TCAATTGGCA AACTCTTGAG AGTGTCTTG AGGAAATTAT TCAAGGGGGT 60
 ATGGTAATTG AAACGAACGT GAAGAAAATT GTGGAGACG TCGACGAGCT CAATAGAACT 120
 35 TCTAACCAGG AAGCCAGGTT TGGGAATGGA CTAGGAAAG CTTTTCAGG CATCACCATG 180
 GGTCGCTTTT CAAATTGGGG TCGCGGGCAG TGAATATTAG CACACACTGT CTTGAAACCC 240
 CATAATAAAT GAAATAAATA CTCCTTGCTA GTGTCTAAGT ACGAAACAAC GCCAAGGCTT 300
 40 TTGGATCATC TATGTACGA TTCAGTTCG CAGCACTCAC CATGGGCACC AACTCTTCTT 360
 ACTTGCTATT TCTGTGTCT TCATTTCGC TTGGCTGCC TGATGGTCTC AAAGCTCTC 420
 CCTAATCCTC TGTAACTCTC CTG 443

(2) INFORMATION FOR SEQ ID NO:196:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 451 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

55 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1078RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:196:

5 GATCAGGATG GCGATGAGAT ACTACCTTGA AGCAGCAGCC TTGACCTCAG CTAACCTCCG 60
 AAATTCCTTT CATTTTTTGA AAGCAGATTA TAATTGCTTC TAAGCCATTC AATTGCTTTA 120
 CTTTTCCGTT AATCAATGCT CTATTTTACC ATCATTCGAA GTAAGAGTAT GTCGATATGT 180
 10 CTGACCTAAG CTACAGATTA TCTAATCACA TAGTTATGTA CGAACCAATA AGATTATCGA 240
 ATTTCGTTGA AAAACTCAGG CGAACGGCAC AGCGTTGCTT GCGCCTATTA GATGCTTTGG 300
 CCATAGCATA TCACGAAGTG ACCTCACAGT TTTTAAGTAA CCGAATAGT CTGTAGATAT 360
 15 GGTATTGTGA AAAGTTTATT NGCTGGTTTC ACCCCCTGGG AATCTNGGNG CTGNGCTGGG 420
 TTCTTAGGTG GGAATCCGG NCCCCCNNT C 451

(2) INFORMATION FOR SEQ ID NO:197:

- 20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 480 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- 25 (ii) MOLECULE TYPE: DNA (genomic)
- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1078UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:197:

30 GATCTCCTTC CTTTCTGGTG TCTTGCCAAG CCCTTATTIG TTGACCAAAG TATTCTTCAC 60
 CGTTGCCCTG TACTCTGTTC TCATAAAATT CCGCGGTAGG ACACCTCTGG GCTTTCTCTT 120
 35 GGCGATCTAT GAGGGCTTTG CAATCATCTT CACGCGCGCT AAAGTTTTC AACCATTTTT 180
 GTATGAGCAG CTACTTCAGT AAGCCCCCGT ATTAGGATTG TTAAAAGAAG TAGGATCGAT 240
 ACCCTTCAAT TCCAGATGAT CGTTGCGGTG GGCTATTAAAT TTGTTAGCCA CCTAATACTG 300
 40 AAATTTCAT ATTATGAC TAGTTAATTA ATATTATGA TGCAATGGGA ATCTATATCG 360
 GTTCTCCGTT CCATCTTCTC GTAATTAGAT CACGTCGGAT ATNGTNGCCC CGTACCGAGG 420
 45 AGGGACCCGA TTGGGNTTAT CTTTATGGTC CCGAGAANTN ATAGAGNGCC NNAANATAGA 480

(2) INFORMATION FOR SEQ ID NO:198:

- 50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- 55 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1079RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:198:

	GATCGCTCAT TATTTTGGT CGAGCGCTGG GCGCTCTCT GCTTCTTCTC AAATACCTTC	60
10	AAATTTTGGT CTATATAGGT CTCGAGCTCT TCCTTCTTGG AACATTCCGC CTGTGAAGC	120
	TGGTTGAAAT ACTGCAGGC CTCTGCACTC ATCGGATTCA CCATTGAATT GCGCTCTTGT	180
	ATCTCTTGGT GGAAGTGTTC TTGTTTGGGA ATGGCGTTT GCGCAGTTG AGCTTGCAA	240
15	CTGGTTGTAT CAGACTCGTC CACTTCATCT TCACGTCCA GTGGATCCAT CCTGCGAGT	300
	AGCTAGGTG GAGTGGTCTA TGTACAGTC TCGTGTGGT GTTAGCGGC TCACCTTCTG	360
	CGACTGTTC AAGATGTGG TTTCCAGCAA GAAAAGAGAC AACCGAAGT ATAAGTACAG	420
20	CACCGAGGC TAATTTTGT AGCTTGCGA TTTAGCTCAG TTGGGAGAGC GCCAGACTGA	480
	AGAGAACTT CGGTCAATG TAATCTGGAA GTCTGTGTT CGATCCACAG AATTGCGATA	540
	TTTTTTGCTC ACGTACCCA CCGGTANGA ACTGGCATTG CCTACCTAAT GGCCAGCAGT	600
25	GGAAAGCGCT CTGTGATAT ATATATATCA AGTAACACAT CTATGTAAC TTTTGACACA	660
	GTCCCAAGGT GAATCTTGG TCGGATCTGC CTCATCTGAR TCC	703

(2) INFORMATION FOR SEQ ID NO:199:

30

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 673 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1079UP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:199:

	GATCAGCGAG CTAGGTACCC GGACGAACAT GCGGTGCGC AGCTTCCCAT ACTTCAGCGA	60
	CCGTGTGTGT AGCGCAGAGC TTCCGTCTTG GAATAGCGAC TGCACCTCTG CGTTCAGCAG	120
45	ATCGCCCTCT TTCAGAAAGC TCGCATCTG CAGCTCATCG CTCTCAGACT TCCGCCGAG	180
	CACGCCGCCG GGCAGTTCA CAGAACCCAG CATGAGCACT GCGTCTGCT TTCCGCCAAT	240
	ATCCACCTTC CATCGTTTGT TCGCGACCTC CAGATCTTG CCGACAATGT GGTCCGCCGT	300
50	CTCTGGCGTG TACCGCCCGC GCCAAGGAAT CACCGACAGG AGTCGGTTCA CCTGGAAAC	360
	GGTGCCCGCC ACCGACGAGT ACGTPTTGT CTCCAGGAAG TATGTGCCGT GGCCTCGCAT	420
	CCACACAGGA TCATCTGTAA TCAGCTCTCC TGGCGTCATA ATCACCAGC AATCCGCTCC	480
55	TTCCATCTCC ACGTCCAAAT CAACTCTTC TTCTCATCG TCCAGGTAAT GGCCTCGATG	540

GAAGTGAAAC CCACGCCGCT TCGGATCGT TATTACCTCG CTCATTACTG CTGAGACGAC 600
 ACGTTTCARA ACTTCAGAGG CTGCTAGGC CAGGCGAAAC AGTGTTGARG ATACGCTTTG 660
 5 TTACTTCTTG AAG 673

(2) INFORMATION FOR SEQ ID NO:200:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 441 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1080UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:200:

GATCCGCCCA CGCATGTATT CCACTATGTA CGCTATATCG CGGCCTCGCC TCCGTGCGGG 60
 GCACCGCCTT ACACCTCAAA GCGCAGCCT TTCATGCAGC CCTTGTACTT TTGCACCACT 120
 25 TCCTGGCACT TGACCGCATC CACGCCGTTG AACAGCAGAC AGCTGTCTCT CGCTTCCTTC 180
 TCGGCTTGC ACACACAGCA TGGCTTTGGC TTGTGGTAC TACTACCTTG TGAAACACCT 240
 GGCACAGAAG AGGATTGAGG CATGATTAAT GCTACAGTTC TTGGAGATCT TCCAACACCG 300
 30 CCGCTCCTT GGGGTTTTTC TCACTTTATT TTGCTTCAA CGCGCAAAA TTGTTGTGGA 360
 ATTACAATAT ACAGAGGGGC AGTAACCCCT TTAGTGGCTT TTTGGCTTCT TGGGCTGGAA 420
 ANTINGACCC CCCAACNINC C 441

(2) INFORMATION FOR SEQ ID NO:201:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 644 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1081RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:201:

GATCTTTTCG AGTGACTAGT GCATGCGGCT ATTTAAAAAG TATCGAGTTA CCCTTGGA 60
 TTTCAGCATT TATAGTACTG ACGGAGCGC TACAAAGCCA AGGCTTTGAA GGTACTAGGA 120
 GACATATTCA GCGGCATAAA TCACCGCAAG CTGATTGAG CGATGTTTTG GGTGTGTTT 180
 55 ACAGGAGCCA GCGCGGTGGC ATGCGTTTTT GGTATGGGA TGGTGACCG ATATCTCTCC 240

TTCAAGCTGC ACAGGCATAC GCACCCGTTT GTGTTGTTAA CACTTTTCGC AAATATGACA 300
 CTGTTGCTCT CGATCACATA COTGCTTCCA CTGATGTGT TTTACTCAAA CCAGACAAGC 360
 5 GGGCGGAAG ACGAGCGGCC AGAGCTGCGG AACCTCGCGT TGTCTGCGC GGTGATCTAC 420
 TGGCGGAGT TTGTGATATG CTGGTTGGTG TTCCCGTGC TGATTTCTGA CTGGATCTC 480
 AAGTACTTGT ATCCCGCGA GCCACAGGAG CCGCGCGGC GCACCGTCT TCGCGACTG 540
 10 CGANGCGCG TTATATGCAA TCTCAAGTTC TATGGTCTTT GTCTACTGG GGTGATCTGC 600
 NGCTGTAT ATCTCAAGAC GACGACGAT CCGCGCGTC AGAC 644

(2) INFORMATION FOR SEQ ID NO:202:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 669 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1081UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:202:

GATCCAAGAC GAGCTGCGCC AGGGGAGAAA ACCCCCCAC ATATGTCCAG CGATACGCTC 60
 30 AGCATGGAAA ACCCAACCGT GGAATTGCGC TCGTAGTTGT GCTTGGCCTG TCGATATAC 120
 TTCAGCACAG ACATGATGAT TTTTATAAAG TACAGCACAT GGCAGTAGAA CAGTGTGAC 180
 TGATTTGTCA ACCCTGTTTG CGTAATGCTA ACCACATATT GCACTGTGCC AATGCAAAAA 240
 35 AGCCCGATGA ACAACTGCAT CATCTTCGG TGGCTGTGC TCATCTATT CGCCGCTCT 300
 CCGGTGAAGC CCCATAGTCT GGTGCCCCAT AGCACTGCG AGCCAGCAG TCGTTAAGA 360
 AGCCAGCTAT GCATGGCATA CCAGTAGTCC GACCACCTA CCGACGGCT CACCGGCTG 420
 40 GACGTGTGCG CTTCATTCTG CCAGAGCAG TCTGCACAAC CAGCGAGGT ACTAGGCTG 480
 TATACCGAT GCAATTAAAC ACCACGTAGC CTTCGACAA TGCTTTGGC CTCTGCCCT 540
 TCCAGTTGAT CCATAGTGGC GGATACATG ACACCGACCA ACATGTGCG TACAAGTATC 600
 45 CGAGCAACTG TCTCTTCTC ATTCCAGCT CGTTCAAGT GCTTCTACG CCGTCTTCTG 660
 GGTTCAGAT 669

(2) INFORMATION FOR SEQ ID NO:203:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1082RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:203:

	GATCCACGAG CAAACTATTA TTAGGCGCCC CCCACCCAG TCTGCAGCAT TCGAAAGCCT	60
10	TCCTAGCCTT TGTGGATGT CCCAAGGTAC AATTTTCTCG CAGCTGAAAA TACGAAAGAA	120
	GCGCCAAGAA GTGGCTTCT TTGAATCCAA CGCGACGCC AATGATGTG AGGCGGGCGA	180
	ACATTTTATA ACAGAGCTCG ATAAGGGCGA TAAGCGGCTC GGCTGTTTT CTTGATCGG	240
15	CTTGATATGC AATANAATGC TCGGACAGG TATCTTTGTC GTTCCCGCGA ANATCTTCCA	300
	GTGACTGGC TCAGTATACT TTGCGTAGG GTTATGGGTA CTAGGAGCTT TAATGTCTCT	360
	AGCAGGTCTT TATGTTTACA TGGAAITTTG AACTGCAATA CCGCGAAG GTGGCGAGAA	420
20	GAACTACCTT GAGTTCATCT TCAAGAAACC GAAATCTTC ATTACGTCAA TGTACTCAGC	480
	ATATGTCATC TTTTTAGGCT GGGCCGAGG TAACTCTGTG ATGGCAGCTG CAATGTTCTT	540
	TGATGCTGGA AAGGTOGAG CAACACGTTG GCGTTGAAC CGTCTTGA GTTGGGTCA	600
25	TTTTCTCTG CTTCCTGTC AACTCTCTCA GTGTCAAAGC TGGGTGTGTA CTTC	654

(2) INFORMATION FOR SEQ ID NO:204:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 680 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1082UP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:204:

40	GATCCGCAGC TTCGGCAAGC GCGCTTCTC CTCCTGTAC TCCTGTGCT CGTCGTACTC	60
	CGGCACCATC GACGCTCCG GCTCTCTCTC ATCCGCGTC GCGTCTTCT CCTCGTCCAC	120
	CGTCTCCGC AGCAGGAGT CGTCTTCTC CCCCCTCTG TCGTGTGTC GCTCCAGCAG	180
45	TGCGCCCGGA AGCGCTGCT CGTCCGGAG CGGCCGAGG TACGGTACT TCACCGGCCC	240
	CATCTCCGC TCAATCCGC GGATCACCAC CTCGCCACG TACCGGTCCA TGATCTGCGC	300
	ATAGTGGTAG ATTTCGACT CCTTCGTGT GTACATCCG GCGTCCACG TGATCCGCAC	360
50	CAAGTCGTC ACGAATCTT GGGCCGCTT GTAGTGGTG AGCTCTTTT TCACCGTCCG	420
	GAGGCTGAGC GCTTCTTGA TGATCCGTA GTAGTGGGA TAATCTTTC TCAGCGCAA	480
	AGTGTAGAAA ATCGGCAAAA TCTCAATACC ATTTCTCTC TTTAAGTCAA ACACGCCATC	540
55	CAACAAAAC TTGAGCTGGT CCGTAGCAA CATCGTTAGC CCTCGCCACC TGAAAAGCTG	600

AAGACTTTGG TAGTGACTA TGTGTTCCGA AACAACATCC CACGCGTCGT TTCTGCCCGT 660
 TCACAGCCTT GCTTCAAGTT 680

(2) INFORMATION FOR SEQ ID NO:205:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 613 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1083RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:205:

GATCATCAAT TTCTTTTGG CTGTTTCTT ATTACAGCC TCTATTCTG AGCGAACATG 60
 CGACGCCACA GCAGTCTAA TGAGCTCATC TGTTAGTTCG GTTGCAACCG CGTTACGCAG 120
 TTCAATCCCT TCTATTGCTT TGGAGCCAGA ATCTCTAGCT TCATCTTGAG CGCTAGCTTC 180
 AGTTTGGGCT CCCAGTTTAA AAGCTGTTG GTTAAATGA AAAGTATTTT CCTCTTTTAG 240
 CTGGGAATTG CCAGCAAATG GTTTCTGTG CGATGACTCA AACGGTACAT CTTTTTAGT 300
 TTTTGTTTC TCTAAATAT GCGTGAGGT TGTAGAGCCG AACTAGACA TAAATGGTCC 360
 CGTAAACTGT TTCGTGGACT GCAGATCAGA CTGTTGCTGT GGCTTGAAC GCATGCTAGA 420
 TTTCACTTCA CTTCAGCGC GGGATTGGGT AGTGGGTTG GTAGTCTTAT AATCTCCACT 480
 ATCGAAGTTG AAAGTTTAT ATATATCTG GTGTTCTCG TGCAAGGAAG ACCCTGCTC 540
 AATGATGCTT TCCGAATATG TGGGTAGATT TGAATCATG CTCCCTAGNA GCAGCATCAT 600
 CCTCCGAAAG AGA 613

(2) INFORMATION FOR SEQ ID NO:206:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 656 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1083UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:206:

GATCCTGAGC GGTGCGGACG AGGAGGAGCG CGAGGAGGAG CCGGAGGCGG TTGTGGGGGA 60
 AACCCTGAGC CGCAGCGCGA CCGGCGGCGC GAAGCGGCGC TTTCGGGATG AGGAGGCGGA 120

GAAGGCGGAA GAGGCGGCGA CGGCCGCTC GGACGACGAG GAGGCGCCCA AGAAGGCGCG 180
 GAAGTAGCGT AGATAGAAGG ATATAACTGT ACASTACCAT GCAAGACGAA TCTGAGGCGG 240
 5 GCGGACGCGC GCTGGCGCGG CGCCGCGGTA GCTGCGGAGG GCAGAAAAAA TCGCCGTGGA 300
 CAATCTCTGC GTCATCATCC CGGCCAGAGG ACAAGATGCC TGGCAAGAAG ATTGCGGGTG 360
 TGCTAGGCGC GACGGGCTCC GTGGGCGAGC GGTTCATCCT GCTGTTGGCG GACCACTCTG 420
 10 ACTTTGAGCT GAAGGTGCTT GGGGCATGCC CGGATCCGC TGGCAAGCGG TATGCGGACG 480
 CGGTGAATTG GAAGCAGACC GAGCTGATGC CGCGTTTTCG CGAAGACATC GTGGTGAGCG 540
 AGTGCAAGGC TGAAGCATTT TGGGCTGCG ACGTTGTGTT CTCTGGGCTC GATGCGGACT 600
 15 ACGCAGGCCC CATCCAAGCG GGAATTTGCC GACGCCGAC TGGCTGTTGT CTCGAA 656

(2) INFORMATION FOR SEQ ID NO:207:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 453 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1200RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:207:

GATCGCTCAT TATTTTGGT CGGAGCCTGG GCGCTCTCT GCTTCTTCTC AAATACCTTC 60
 AAATTTTCGT CTATATAGGT CTGCAGCTCT TCCTTCTTCG AACATTCCGC CTGTGAAGC 120
 35 TGTTGAAAT ACTGCAGGGC CTCTGCACTC ATGCGATTCA CCATTGAATT GCGCTCTTGT 180
 ATCTCTTGCT GGAAGTGTC TTGTTTGGGA ATGGCGTTT GCGCAGTTG AGCTTGCAAA 240
 CTGGTTGTAT CAGACTCGTC CACTTCATCT TCCAGTCCA GTGGATCCAT CCTGCAGCT 300
 40 AGTCTAGGTG GAGTGGTCTA TGTACAGTGC TGCTGTGCGT GTTAGCGGCG TCACCTTCTG 360
 CGACTGTTCA AAGATGTGCG TTCCAGCAA GAAAAGAGAC AACCGGAAGT ATAAGTACAG 420
 CACGCGAGCC TAATTTTGTC AGCTTGCGGA TTT 453

(2) INFORMATION FOR SEQ ID NO:208:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 590 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1200UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:208:

GATCAGCGAG CTAGGTACCC GGACGAACAT GCGGTGSGC AGCTTCCCAT ACTTCAGCGA 60
 5 CCGTGTGTGT AGCGCAGAGC TTCCGTCTTG GAATAGCGAC TGCACCTCTG CGTTCAGCAG 120
 ATCGCCCTCT TTCAGAAAGC TGCGCATCTG CAGCTCATCG CTCTCAGACT TCCGCCGCAG 180
 CACGCCGCCG GGCAGGTTCA CAGAAGCCAG CATGAGCACT GYGTGCTGCT TTCCGYCAAT 240
 10 ATCCACCTTC CATCGYTTGT TGGCGAAGTC CACGATCTTG CCGACAATGT GGTGCGCCGT 300
 CTCTGGCGTG TACCGCCCGC GCCAAGGAAT CACCGACAGG AGTCGGTTCA CCTCGGAAAC 360
 GGTGYCCGCC ACCCAGGAGT ACGTTTGTGT CTCCAGGAAG TATGTGCGGT GGCTCCGCAT 420
 15 CCACACAGGA TCATCTGTAA TCAGCTCTCC TGGCGTCATA ATCACCAGCG AATCCGCTCC 480
 TTCCATCTCC ACGTCCAAAT CAAACTCTTC TTCCTCATCG TCCAGGTACT GGCTCCGATG 540
 GAACTGAAAC CCACGCCGCT TGGGGATCGT TTTTACCTCG CTCATTACTG 590

(2) INFORMATION FOR SEQ ID NO:209:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 754 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1201RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:209:

GATCTTCGAG ATGAACCCAA TATGGAACAC GGGCTTGGCC AGCTCGATGT GCGCGAAGTG 60
 35 GCGCGGCAG TCGTTCATGC CCTCGCCACA CGTCTGACAC TTGAAGTTCC GGTGATGGA 120
 GCGCAGCCGG GGGTCGTTCA GCGCTCCAC CTTTGGCGGC ATCTGCGTCT CGTCCATGCT 180
 40 CTCTGGAAAC TCAATCTTGG CCACCGAAAT CCGCCGACC TCCTCGGGCG AGAACAGCCC 240
 AAACTGCACC TCCTTGATGG TCGCAGAGG CGCGCTGAA TACGGAAAGT CCACCATGCG 300
 TGTGTGTAC TACCGCTCCC GGAGATACAC CCGTTTGCAA GTTCGTGTGT GCACCTGACG 360
 45 CCCAGCCGCC ACTCGCAATC CTCGTTTACG CCGACCGCTT TGTTTCGCTC CCTTGCCGCA 420
 ACAACGAAGC TCTGTATAT GTGCCCGCTC GAGACCTAA GCGTCTCTCT GTGGAACACA 480
 CGCTCAGGC CAGAACTCG TGTCTTTACC TTGCAGCTCT GGAATTGGTN CCGGCCAAAC 540
 50 CNGCTEATTG CTTGGGGGAA CNGCTATGCT CCGTGINATC TCAGCTGAA TNCACCANAA 600
 ACNGACCCCC CACCTACCCC NCAACTCTGG TTATTGGATT TTGCCGGGAA TAAACNCANT 660
 GTTNCCAATC CTTNCACCCC CAACTGTGT NTCNCTGTT CNGTNCNTN TTACTIONA 720
 55 CCTCCNACN CCAATTTTIT TTNCCGTTG CCT 754

(2) INFORMATION FOR SEQ ID NO:210:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 643 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1201UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:210:

GATCCTCOGA TTAGCCTGT CTAAAACTC AACCAAGCTG CTCTGAAACA AACAACACGT 60
 ACCACTTCCTG TGTGTTTCT CTGCGCTGTG TGACCGTCCC GCAACTACTA TGTCGTACG 120
 TGTGTTTTTT COGAAACTT GCCACGCTC CAGAATCAGA GGCTGTGAGA TTCTTCGTGTC 180
 GAATATCGCT CTGACGCTC GCTTACGTGC GCGCGCCAG TGCTCTTAAC CGGCGCCGTA 240
 GCGCGCGCC CTGCGCGTA CCAACAAGCA TGGCAGGAGA CACAGAGTAC TACAAGCAGG 300
 CGGTGGAGGA GTACGCGCG CTCAAGCAGG ACACGGACCC GGAGGAGTGG GACAGGCGGA 360
 TCGCGCAGAC GGGCTGCTAA GTGAGAATA TGGCGTGCA GCTGTGCCAC GCGGAGACCG 420
 GGGACTGGCG GCGGTGCGG GCGGACATGG CGCGTTCAA GCGGTGCTGG GCGGCGCAGG 480
 CAACCGCGAG CGGTGAAGC ACGTGGAGG GTGAGCTGG GCGTGTAAT AGGTGTATCT 540
 GGAGCGGTGT CAGGTGACA CTGACACGT TACGAANCAT TTTTCGGTIN GCGCNCOGA 600
 ATGCCANCC CCAATCTNAN NACCCAAACN GGGTATGAT NTN 643

(2) INFORMATION FOR SEQ ID NO:211:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 735 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1202RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:211:

GATGAAAAC GCTGCCACG AAAGCTTGAC ACTGAAGGA TTGAGTATT CTCTTGCAAT 60
 TTCCAAGGCG AATACCAGCT TGTCACAGC TGGGATCCA ACCTTCCCT CTTTCAGGC 120
 CTGCTGTAC CTGCTGCTA TCTGCAGCT AGGTAGCAGC TCTGTGATCA GCATGACGAC 180
 GCGCAGCGCA GAGGTAAAC CTTTCAGAA GGCTTTGAG ATTGCATTGT CGATGAAACC 240

GAGCCTGAAG ATGCCCATGG CGAACACCAG GACCCCTGAT ATGCATCGA TAACCGCAAC 300
 GGTCAATCAAC GGTTCAGCG ACTTGTGGC CCATGCATCG CAGCTCTGGC CCACCACAAG 360
 5 GGACGCAACC GTCTGGGGCC CTACAACCAT CGTCGGGACG CTGCCGAAGA CTGCATATAT 420
 CASTGGGGGG ATCAACAGTG CGTACAGCCC TGGTATGGT GACACATGTG CCATAGTGGT 480
 CAGCGAAATG OCCAGCGGTA TCTGGAATGA CGTCAGCGTC AGCCCGACAA GCATGTCTTT 540
 10 CGCATTTCCC CAGAATACTC TGGCAGCCAG CGTATAATGG GCGTAGTAA GACNCATAAA 600
 ATTNTTTTCC TNCCTACCGT TGTCTNTTTA TNGCTGTAC CCNTAAGAC TTCTCANAAG 660
 CAGTNCCCC CGCCCGGAG ACTTCANCC CTTCCCTACT CCCAATTTGG ACCANGACCC 720
 15 GGTCTCTGGT GCTTN 735

(2) INFORMATION FOR SEQ ID NO:212:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 777 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1202UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:212:

GATCGCGCC GCGCCCCAGG ACTACGTGA CTTTCTCTCG CTCACACAG TACTGGACGA 60
 CCGCAGCAG CCGGAAGCG ACTGCGTGA GCACAGCTAC AGCCCGATC CGCTGCAGCT 120
 35 CGCCGTCTAC GCGCAGCCC AATGAGAGCT CATCGCTCCC GCGCAGTGG ATTTTTTTTC 180
 CGCCCGCCCG CAGCGCTCG CTTGGCGTC ACCGAAGCCC CAGCGATGAC AGCCAGCGTC 240
 CAGGATATCG TGGTGCCAC CGCCGGGAC AGCGCCGGG GCGCGACGG GCGCCCCAAC 300
 40 CAGGCGGTCA CCTTCCCGT CGCGCTGAC AGCGGACCG GCGAGGTGCT CGTGGCAAG 360
 GCCACGGCA AGACCCCGT GCGCAAGGC CAGACAGAAG AGCAGTACTG CGAGCAGCTG 420
 CAGCAGTACT TCGAGCGTGA CGCGGTCCC GAGTGCACG AGGAGGCTG CCTGACCGC 480
 45 GCGCGCCCG CGGCCCGGC GCGACCAAG CAGGAGCGC AGCGCTGCG CGCGGTCTA 540
 CCAACGCTC TACTTCTCG GCGCCGTG CGAANCCGC GGNITGCCC GCGACTGCTG 600
 TATACGTTC CNGTNGGG CNGCTNCA TNGCGCCG AANTNCTNA NCTNNNNCT 660
 50 NNTNCTNCTN GACCCNNNN CCTTAATTT TCTNTTNN NNTTNTCTT TTCCCTCCC 720
 NCTGTACCC TNCNTNCT CNGGTNNNT CNTTTGGTG NGCTNCTTC CNTNCT 777

(2) INFORMATION FOR SEQ ID NO:213:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 756 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1203RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:213:

GATCAACAG CTGCAGTTGT TGAAAAGGTT GCTTGAATCC AAACCAAGGA AGGACGTATT	60
TTGGTTTCTA GGCTTGATA ACTAATCTCT TCTCCACTCT AGCTGGGGAT AACACCTGCA	120
15 GGACGTGAAC TAACAAGTTG ACTACTATAC AGCAAAATAA CTGGAACAAG TTATACAGAA	180
TTTTGTAAAT ATATTATAGC AGCCCTATTA CTATAATTCC ATCATTTGTT AACGCTTTAG	240
CCTTCGTTCT CAGACTCGTC GTCAATTTTCT TCATGATAGT TGATATTTTT GCGTTGCCCT	300
20 GAGCTTTTCC TTAGTGGGCC TGCAATGAGG CTCCTACTCT TTGGCTGTGA GTCACCTGCA	360
GAGCTTGGTG TATCTTCGTC CTCGCTTCCC TCATCGACAA CTTTGGCCTT CTTCTTAGTT	420
TTAGATGAGG CTGATGATGG CCGTTGGGCT TCTTGAATTC TCTTCTCTG CCGTTGGCGA	480
25 TGTTGAATTG GCGCGATTAG AGAAGCGCGA TACTTTGGCC CTTATATTTA CTGTCAGTGT	540
TTCAACATGC TGGTCTGATA TATAGCTCAT GAACGGTTT CTTTGGCCT CTTCCCATAT	600
TGGGAATGG CTGATAAAGT TCAGAAGGCA GATTAGCTCC CAGGTAGACT GGTAGATTCC	660
30 ACCCCCGTTG GTTTTAGCTC AAANATNATC AATTGGCAAC CNGCTAGANA TAATNINIGA	720
ACATATGCTC CGTGTGGGAT CCGTGGGAT CTCCCC	756

(2) INFORMATION FOR SEQ ID NO:214:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 781 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1203UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:214:

GATCATTGGC TCGCTGCTCG GGGAGACCAT CTCGGAATGC GACACTGTGT CGATGTCTGT	60
50 GCTGGGAAG ATCTTCAACA AGTTTCTGAC ACACGATTTT GGCCCGCTGC GCTCCCTGCA	120
GGCTCCCGG CCGGACCGG CTTTGTATTT TTCTCTGACG ATCTGCCAGT CGTACAGTAA	180
CCGACTCGGG CGGCAATTC AAGAGTTCTA CTCGAGATC CTGTACGGGA TTACGAACCC	240
55 TGGCTCGGCC GGCTCAGGCG AGACCGCGGG CCTGCAGTCG ACACTTGACT CGGAGTTCAA	300

GACTCTTCTG AAAGTGCATA AACTTACGGC CAACATATGG GAGCATGTGC CGGAAGTGGT 360
 GGGCTCCGTC GTCCGATTTC TGCATCAGGA GTTATGCTCA GACAATGTGC CGCTGCCAAT 420
 5 TGGGGCTACG CGACTTGTAG GTGATTGTGT AGCCGCACCC TCCGCTGCCA ACTTCTGTAC 480
 GATGCATACG GACACATATA ATGCCTGGAT GTCGAAGATA GCGGACATAG ACGCCACGGT 540
 GAGGCGCGAA TGGGTGAAAG CCATACCTAA GATACTGGAT AACAGTCTGA TTTGGCAACA 600
 10 GATATCTGCA AAGGCTCAAC AAGACACTAA TGGATACCGA CGATGTGGTT AGACTATGCA 660
 GCTTAGAAGC GCGTGAAGA ACTACAGTCC CCACGATTCT GGGANATCTC AAAATTCCAC 720
 TTNTTCCNAA TTGTGCGCC TACCCAAANA AAACNAANCT TAGGAACTTT TCATTGTGAC 780
 15 C 781

(2) INFORMATION FOR SEQ ID NO:215:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 765 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1204RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:215:

GATCCGCTTG GCTAGGTCTT CAGCCGGCAT GTGTCACGG TATAGGGCTT CGGAGCCAAC 60
 TAGGAAGCCG CGCACGGTGT CCGACTTGAT CCATGGCAAG TAGGTCTTGA GCGCATCCTT 120
 35 CTCATCGAA AAGTGAAGGT CGTCGCTGG CCAGACACCG ACCCATAGCT TGAAGCCAGC 180
 ACGTCCGCA GCAGGACCA AGAAGTCAA CGTGTTCAG TCAGAGGTAG AGTAGACTTT 240
 GACCGTGTC GTGTAGGGC GCAAGGCTC GAAGTCGTC AGGTAGTCTT GAGTGTACTT 300
 40 GCAGGTACG TCGTCTTCT TCACACCTAG GTTGAAGGC AAATGCCCA TAGCGTGTAC 360
 AGACGAGCA CCAAGCAGAG CTGCGGAAAC AGTGGCAGAG AAACGCATAG CTAACGAATT 420
 GATGTTGAGT TAGTCTGGCT AAAGTGGCTT GTACTGGAGA AACGACAGAG AGGACAAAT 480
 45 ATATGTTAAT ACCAGTTCAG CGCATCTGC CGAGGAAAA AGAAATGTGC CCGTGTTC 540
 CGGCACCTTC CTTAATTTAG AAGCATTATC TATCAGTGA ATATCAGTG AAACACGTTA 600
 AGCCTACAGA GAGCTATTGA CCGTGGCTCG GAACAGTTA GCACTGAGTT ATGTACTAAG 660
 50 GTGGCCACCG ACCATGCAGC TGTCTCGAT GCAATATAAC CCCCCGGGC CCGGCAGTCA 720
 ACCGCCATCA AAAGTCTGTC CCCCAGTTC CCTCAATGT CCNTG 765

(2) INFORMATION FOR SEQ ID NO:216:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 776 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1024UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:216:

GATCAGGAAG CAATAGGTAC TCAATTGCGG AAGATTGAGA GACAGCAAAG GTCAAGTGCA	60
GTTCAGCAAC ATCGAATCCA CACAAGTTAT GTCGTACAGA GCCATAACT ACAACGCAAT	120
GGCACCCGGG GGGCAGACGT TCTCCAACAG TCCATATACG AGCAATATGG GGTCCACGGG	180
GGCTCGCGGG CGCAGCTCAG AGCTGTTCCA GAAGTTGAG CGATTTCGGA AGCCCATAGA	240
GGACGTGACG GACCACCCGC TGGTCAGCG GTTCGTGCCG TACACACCGC TGATTGCGCG	300
GTTTTTTTATT GTGGCCAGT TCTACGAAGA CTCGATCCGG ATTCTGTGCG AATGGCCGGA	360
GCAGGTGTG TTTCTATCCT ACTACGGCG CTACCCCGGA GTTTTGTAG TGCTGTTTTT	420
GATGGTGGTC GCGGTGCTGA TGATGGTGGG GGCCAGATG ATCTGCTGC GCAAGCAGCA	480
GCTGTATGCG ACTGGGATCC TATGGGGTG TATCATCTCC CAGGATTTGT GTACGGGCTG	540
TTCTCCGGCA CTCCTTGCTG TTTGGGAAT TTCAGGTAA TCGGGGTTG CTGATTACTT	600
CCGTGACTCC ATCCGTGCAG AAGCCATCA CATTCGGCAT GCTGCCGGAG CTAACAGCAG	660
GAAGGCGCAC CAAGGCTACA TCTGCTTGC GCGGCATAT CATAGTCTTA GTTTGTGACT	720
TTACTCCGC AACTGGTGA CGNITCTCN CCTCGGNAC GGINCTCCCC TCGGIN	776

(2) INFORMATION FOR SEQ ID NO:217:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 747 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1205RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:217:

GATCGCACTT CAACCCATTC AAGAAGACGC ACGGCAGTCC GGAAGACGAG AACCGTCACG	60
TGGCGCATAT GGGCAACGTG CTCGCGGACG CAAACGGCGT GCGCGTAGGA TCGGCGAAGG	120
ACCTCTAAT CAAGATTTTT GTCTCTACGT CGATTCTGGG CCGTACGGTC GTTGTCCACG	180
CCGCAAGGA CGACTTAGGC CGCGCGGCA ACGAGGAGTC GCTAAAGACG GGCAATGCGG	240

GCCCCAGACC TGCTTGCGGC GTGATTGGCA TTGCCAACTG AGCTGGCTGC TGCCGCGTGC 300
 CGGAAGCTCT GGAAGGTTGC CAACTAGAAG CTCTGATGAC TATGTTAGCA GAATAAACGT 360
 5 TTTATGGTTC GCTGTGTTGG CGCTGTATGT TACAATTGCA GCAATTAGAA GTCTGCTCTC 420
 GCGCCCGACG GCACCTCGG CAGCGAGTAG CTGGTAGGA TGTTTGCGGC CGCCAGCAAC 480
 AAGCCGAGGA AGGCTCCGA AGGGTTCTAG CACCTTGGAC ATGTTACTCT GGTGGTACT 540
 10 GCGTGGCGAC GTTAGTAGGG TTGGTCGACG AGCTCGAGAA TCTCGCACCG GTGCCGTCTC 600
 GTCTCTGCCC CCNAATTGAG CCAGCNCCTG ATTTCTGCNC ACTTTGGTTG ATCCNTACN 660
 ATGAAATNTT CCNCCCAAAG AGCTGCGGT TATTCTINAN ATGACATCGG TTCCCCGAA 720
 15 AAGTGTCTAA ACATCCCTGT CCCCCCN 747

(2) INFORMATION FOR SEQ ID NO:218:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 777 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1205UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:218:

GATCTTCAGG TTCCGGGACA TGATTATCAG CGAGATGGGG TGCTGCGGC GCGGCCCCGG 60
 CTCTGCACA CGCTGGGTGA ACTGCTCCCG CTCGGGCAGG TCCTGGGGCA GCACCGCAGA 120
 35 GATCATCTTG TCCAGCAGGA TGTCATGAA GTGCTCTGTC TCCTGTACCT GAGACACCGC 180
 GCGCAACTTG GCGGCGGGCT GCTCTCCGT ATCTCTCTCG TCCGACATAC CCGCGCCATT 240
 GTGCTGGTC TCCTCTGCC AGAAGCTGTC CCGCTGCTC TCCAGCTCGT GCGCAACGC 300
 40 GAACTCGTC AAGTCGTCTG CGATTGTTTT GCGCTGCTGG TCTTTGCCCC TCOCGAGCCG 360
 CTCCCATGTC GGTGGAACA GTGAGCAGC GATGTTGGTC ACCAGCTCCC GGTTCGTGAC 420
 GCACGGCCGC GCTTTTCAT CGTCTGCCAC CCTCTCTCT GCTTCATGA TGGGTTGATA 480
 45 CTGCGCGGCC AGGAATTCCC CCAGCAGCA ACGCGCTTC TTGCTGCCAA TTGCAACGCT 540
 CTCAGCGCC TTGGTCTATC GTCTCTCTC ATCGGTCTC CGCCCCCAG TCATATAGAT 600
 TGGGCTGCG GSTAGCACAC TGGCGAAGGC TGCTTTGGTT ATATGCCGCT AGAAGCAGTC 660
 50 TCGCGGTCA GTTAGTCTT TCGTGATGAT GACGTGTTCA CGATGACTCG GATATAGAAC 720
 AGTCATCTAT CGATTGAGAA CATAGCTATA TAGAAATGAT TTAGTGTAAT ATATCGA 777

(2) INFORMATION FOR SEQ ID NO:219:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 751 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1206RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:219:

GATCGCGTCC	GTCGTGTCG	GCTCCTCGTC	CTCGTTGAAC	TCCGTCCACA	GCTTGAACGG	60
CCGCGCCGAC	AGGTCCACCT	TCGCCACCGT	CTCCGTCACC	ACCTCGGTTC	CGAAGTTCAC	120
GGACTGCGCC	TTTCATCCGCT	CCATGAGGTC	GCTGCCCCGT	AGCCCCGTGG	GGAAACCCCG	180
GAAGTCTCA	ATCTCCGTG	TTGTGTCAG	TTGCCCGCCT	GCAGCCACTC	CGTTGCGGAA	240
CATGCCCTCG	TACAGCGTCG	GCTTGATCTC	CGCGCGCGCT	AGGTAAATGG	CCGCAGTGTG	300
TGCGGCAGGG	CCGGAGCCAA	TGATCGTAAC	TTTGTGATGC	ACCATTCGTG	TCTGCAAAGC	360
TTGTCCCAAC	CGSTATCTTG	TTGCTGCTGC	TAGCATCAAC	TGTGCACCGC	TAAGTTTCGC	420
TCGCGCTTGC	TGGTTTATA	CCTCTGGGCT	TCACCATCGG	TGAACCTTGA	TCGCGGTTAC	480
TATTTCCGAC	GCTTATGTCC	GCACCTGACA	AATTGGGCTT	CGCGGGTGCG	CGACTGCGGT	540
CAGTGGGGGG	TGCAGTACAA	GATACGCACC	GCGGGCCTNT	NGNNNTCN	GGCCCTCTCN	600
GNGGCCCGCC	GNCCTTCNC	AGGATCNTN	CCTCANCTAN	AACNNGGCC	GGNGNNTCT	660
TTTTTTTGTN	CNGCNAACGA	AGGCAATNNA	ATNTTNNIN	GGNCNINNGT	TNGAANTGTC	720
CNNNGTGGG	CATCGCNGCT	TATNAACACN	C			751

(2) INFORMATION FOR SEQ ID NO:220:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 778 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1206UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:220:

GATCCGCTGC	TGTGTCACCA	CCTGCTGCAG	GTAGGTTGCT	ACTCCACGG	CGAGATATGG	60
GTCTGGTCA	ACATCCTACA	GCTGACCTGC	TTTAAAGAGA	CAACCAAGGA	CAAGTACGAC	120
CGCCGCATCA	TCAGTTCCGG	CGGAACGGTT	TGACGGCCC	TGTCTGCAGA	TAAGACCTTC	180
GCTCAGGAST	TTAACTCCAA	ATGTCTCAAC	TTTACGACCT	GGTGGCACCT	CATGGCCCCG	240
CTAGACCACG	CTGTTTTCAT	GTGGTGCTCA	GACATTATCG	TGGCCGAGAA	CTCACAACCC	300

TTCAAAAGCA ACCCCATCAT CCGGATAAG CTCAAAGGCA AGGACTGGGA CTACTACCGT 360
 GATCTACACG TTGTTGTGTCAN CTATAGGATT ATCTGGGCCC TGACTCTTAC AGTGCTTCTC 420
 5 AGCTATCATT TTGGCTTCAA TAATCTCTAC GACCTCTCTT TTGTGACCC AGCCTTCCAG 480
 ATAATAGGGC CCGAACAAGC GACTTGGGGG ACGTGCATGC AACCTTTATC AAGAAATGGC 540
 ATCACAATA TAAAAAGTTC TAGTTGCTCG ACTTGTATC TCATCTCTAA ACATAATATT 600
 10 CTTTATATG CTGTATTAC TTANCTCAA CATGATNACN TATGCTGGA AGATTTCNC 660
 GNTGGCCGIN AGAACGATT TGTGTCAACT TMTATAAAC TGACCGTGC GCCCCTCCCG 720
 TAACCCGANA TTCTCTGATN CNTGATCTTA TGANGATGCC GGCNCATTNN CANTATTC 778
 15

(2) INFORMATION FOR SEQ ID NO:221:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 756 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1207RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:221:

30 GATCTGTTTC AAAAATTGGA AACGCTTACC ACCTCACCAA CACACCAGGA CTTTATTTTC 60
 TAGAAACAGG CGATCGGCCCT GAACAACAGT CACTAGAAAC GGTGCACCAA GGCAGCTTGG 120
 CAACGAGGAG GCACCCTAGG GCTCAATGCG TTGATAGTAA AGCATGTACA CGAGCTTTGT 180
 35 CTCGAGAGA AGGAACGAGC TCTTGCCTC CGACAGTAC GAGTCTGAGA TACACCACCA 240
 CCGGTGCGTA GTGGTGCGAC GTAAAGCCTT CAGTTTCCCG GGACGGCCCT GGGGACGGGG 300
 GAGTACCTTC GTGCAGCCG AAGATACGCC CGATGAGCTC GCAGAGCTGG CTCGGAGCT 360
 40 GTCTGCTCG GCTGACCGGT CGGGCTTGA GACGGTTCT TCCGTAGTA GTGACTGTTG 420
 ATGGAAGCTC CCCAGTAACG GTCTTGAGCA AGCGGCCATC GGGCCAGGCG GAAGGCTTCC 480
 AGCTGGCGTA GGGCACAGGC ATTGAGGGG CTGGCTGCGG GACGGGTCC GACGAGATCA 540
 45 CATCTGAGCG AATGATATCT CCGCCGTCT TGGTCTTCC TAAGTCAGTT TGTGCGGAA 600
 CATCGTTTAT GCCCTGAGAA TGGTTGCCAT GTGCTGATT CATGCCCAA CAGCTTATAG 660
 CGAATGCCAA ACCCCCACCA TTGTNTTCCC CNACACTGCT CNTGAGACAC CCCCCCGGA 720
 50 AANTNAATGC GGTNTTNTTG TTA AAAACCCN TNA AAA 756

(2) INFORMATION FOR SEQ ID NO:222:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 771 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1207UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:222:

GATCTAATGA GCGATAAGTC ACCGGTTATA GAAAGTTGCG CGAATCCTAC AACTGACTCC 60
 AACTCGCCAC AGGAGATATC TCTATTAGAA AAGAATATCA AGGATGTCAT GCGTTCACTA 120
 AAGGGCGTTG ACACGCACTC ATGTGAACAG ATCATTAAAG AAATTCTTGT GGTGATTAC 180
 GATGTTGAT GGGAGATAT AGCTGGTCTT ACAATAGCAA AGAAGTGTIT GAAGGAAACA 240
 GTTGTITACC CATTTTTGCG GCCAGACCTT TTTCGGGGTC TCCGGGAACC TATCTCCGG 300
 ATGTTGTTAT TTGGACCTCC AGGAACAGGT AAAACGATGA TTGCCAGGGC CGTTGGGACT 360
 GAATCGAATT CAACTTTCTT TTGCATCAGT GCTTCCTCTT TGTATCGAA ATACTTGGGT 420
 GAGTCGGAAA AACTTGTCAA GGCCTTATTT TACCTAGCCA AACGGCTTTC CCCCTCAATT 480
 ATATTCAITG ACGAAATCGA CTCTCTACTA ACTACCGTTC AGATAATGAG AACGAATCAT 540
 CCAGAAGATT AGACGAGCTC TTGGTCCAAT GTCTCCCTA ACGAGCGCCA CGGCTAGGAA 600
 CAGAGAGGCG AAGAGGCCAG ACGGCTACTG TCTTGGCGC AACCACTTAC CGTGGGCAAN 660
 AANGANGCTG CNATAAACTT TTTCACGGT CTATNATCCC TTCCCGGAAT ACAACNAAAT 720
 GTTCTTTGAA AACTTNTGGC CTCACAAAAG AATTTGGAAC TNATTNNNN T 771

(2) INFORMATION FOR SEQ ID NO:223:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 740 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1208RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:223:

GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60
 CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120
 ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAATCAT TTAATACTCC TCTAATTCAA 180
 TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240
 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300

ATCATTAAATA TAATAACTCT TTAATTAGAG TTGGIACCAC AAGAATGCTG AAAGCATTAG 360
 GGGTGTGTAC CTTAGCTCTC CTAATTAAAG TTTATAAAAT TATCCTTAAC TAATAAAAAT 420
 5 AATTAACTTAA ATAAATAAAT AATTAAITTA ATTIAAAATG TTTTAAAAAA AGAAATAAAT 480
 AATATGTTTA TAITTTAAATA GATTCAAATT TCCAACAATT CCCATTCAAT TAGTACTACC 540
 ATCACCATGA ACAATTGTTA CATCATTAGT TTATAGTTTA CTATACTTAG CTTACTAACA 600
 10 TGGTATATGG TATAATANCC CTAATAAAC TTTATANANT TTTACCNAACT TTTGATTAAA 660
 AAAAGGGCGA NNNNCTTTGG NGGACCCCTA CCNTAAAAG GNGTAATGGT TCCCCAATTG 720
 GTGGCCGAAA TAANTTGGCC 740

(2) INFORMATION FOR SEQ ID NO:224:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 782 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1208UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:224:

GATCTTAATT TAAAAATTTA ATTAATTTAT TATAATTTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 35 ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAATAGTA TTTAATTTAA TTTTAATATT 300
 AAATATACCA TTTTATTTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360
 40 ATTTAATTTA TATAAATTAT TTAATTTACT TCCCCTGATA TATATAATTA TTAATGTTT 420
 CTTTCATAAT ATTTATTTTT ATTAGTCTAG TAATATTTCT ATTTAATAGT CTACCCCTTT 480
 AATTGGATAT TACTACCTAC TAAATATTTA CCTAATAAT ATATTATTAA GAATACTTAA 540
 45 TCCTAATAAT TTATTATCCT AAGTTATATA AATTAAITTA TCCTTTTAT TATTATTTAA 600
 ATTATTATTA ATTAGTAATT ATATTTATTA TTTTATTAAC ATAAITTTTG ATAATATATA 660
 TCCATATAAT GGTATTTATT ATATACCNIN ATGAATTAAT GANAACCTA TATATGANAT 720
 50 TAGTTATAGT GACTTAATCC CNATCTCAAT ATATATAATT ATTATAGAN ANATACTTTT 780
 TC 782

(2) INFORMATION FOR SEQ ID NO:225:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 533 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1209RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:225:

GATCAGCCTA TGTAGCAACT GATCGGCGCT GGTCCGTGTC AAACGCCGAA AACACCCAC	60
CAGATTACGC AGACACTCCC ATATTTTGAC CGACTGGAAC TTTGTGTACA CAAAGCTATT	120
CAGCTTGTC A CTGGCCACCG TCAGCGGCAT GTTGTTCAGC CGAGTCGCTA GCGCGCACT	180
GCTGTTGCCC TCGGCAGCG ATGGCTCCTT AAGATCCTGC GTTCGCATAT ATTGGCAAA	240
CTTCGATAGG TCTCGACTGA GCGAATTACC GACATGGTCC AGTAATAACA ACACCCACG	300
GCAGCCCCC CAGCTGTAAT TCACCGTTTT GACCAGCAGA AAGTGCAATT GTAAAAGAAT	360
GTACCACTAA TCCAGTAAA ATGTGGAAAA GACCTGGTCG TTCTGAAGAT ACGAAATCAT	420
CACTGAAGA TTCTTCAGTC TTCTCCGTCC CGAACATCTT GGAAAAATCT GCNGNTOGTC	480
GCTTCTCTTC CACTCGAACC GCAGGGCTTC CAAGGACACT CCTTGCAATT GAA	533

(2) INFORMATION FOR SEQ ID NO:226:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 534 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1209UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:226:

GGAGGATCGT CGAACTTGAT TATTTTCTTC TGGTACGACG ACAGCTCGTC CCGTTCGGC	60
TTTAACGCCA CCAGCACCAC GTACTTGTTC GACCGCAGCC CGACTGTGGC GCTCCCTGC	120
TTGATGGCCT CTAGCGCGTA CTCACCTGG AACAGTCTCC CAGTCGGGA AAACGTCACA	180
GTATCACCGT CGTAGTTATT TCTGAACATC ACTAACTCAC AGNGCCCCAA TTGNTCGTGC	240
ACACCGCCCT CTTTACTGGT GCTAGTTAAC TGGACAGGAG CTGTGTTTGC CACCCGGCCG	300
CGGGAAGTAG CTCTGGTATT GTCAATTTGAT ACGGAGATTT GATATTCTGT GAAAGGTATA	360
TAGATGATTC CGTCTCCGCG ATTGATTGGA GGCTGGTTCG CATACTGGAG TCGTCCGANG	420
TGTCGNATCT TCTACATAAC CGTGNAGGN CAGGGGAGAG GTTTGNNNGC GCAGTTGTTC	480
CGGAGTACCA TATTAGGCGA TGTGCGGTGA AGAGGTATCT ACTGGTGGTG TTAT	534

(2) INFORMATION FOR SEQ ID NO:227:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 547 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1210RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:227:

GATCTAAATT TATCAGCCCA TGGACGGATG GATTTCAGGC AGCGTGTCCG CGCAGCACGG 60
 GGCACGCCAG ACTGCGAGGT GGCAATAAT TCACATAGCA ACCTGCATTA TAAACATCCC 120
 AAGTCATTAA ACTTACTAAA TATTGTTGCG TAACCAAAAG CACCGTGTAT CATCATCTTC 180
 ATAGTCTTAG CTGAACCTAC TGTGCGACCA GCGCTTTACT ACGTATTGTA TCTCCCTTTT 240
 ACAATGCTTG CCCACTGCCA GTTTTCCGCA CGGGCGTTAG CATGAAGTCT TTGCCGCTT 300
 TGTACCACGG CTTGACGTCT GACTCTAGCG GGACCAACGA GGTTAGACGG AGTGCACCCC 360
 GGACCGAGTC ATCCTCGCTC GCGTGTTCCT AGAGACAATT TGAGGTTCCT CGGAGCATCC 420
 ACGCCCATGC AATCCTGCCC GTAAAAGTTT GCACANTTCA TCCACACTT GGGGGTTTNT 480
 TATCAGNCCA NOCTGATCTG GTACGNAAAA NTTTTCCNIN TTGCGTGAGG AAATCAGGTT 540
 CCAATA 547

(2) INFORMATION FOR SEQ ID NO:228:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 600 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1210UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:228:

GATCGAGAAG ATGCGGGGCC GCAACGAGGC CGCCACGCCG GAGCGGGCG GCNACGAGCT 60
 CCTGACGCCG GCGGAGCGCT ACGCGCTGGA GCAGGGGCAG GGCTTCCTGG CGCCTGTGCT 120
 CCTGTGCGN GAGCGGGCNC GGCCCTGGC CGTGCCCTGC AACGAGCTTC CCGATGAATA 180
 CTGCATCACC AAGACTGACT TCGACCGGCT CGCTAGCCAC GGCAATCCCG TCGAGGAGCT 240
 CCACGAGGAC AGCAAGGACT GGTACTTCCA GTGCCCTGT GGAGTAGAGG AGGTTAGCCC 300

GGGCTAGAG AGCCCCGGC TGCAGCAGC OCTGGTCTGC TGGACCAAT GCTCCGGT 360
 GGCAGCAGCT GGGACTGCCA GCACCCCGCA GCGATTGAGC TTGCTGGCCN GCGGGCAAGA 420
 CTCTCACTA TTTTGCCCTC CNTGCCCCCT TGGCTGCCC CAGCGCCCG CGCCCTCAG 480
 GCGGNGNG GCGCNAAC CCTTACCAGA ACCAAANNA CNAAGCCNCC GCGCCCNTC 540
 GGTGAAGCA ACCCTTTTIN NCTCTGTCT TCCNCCCTG AAAGACCTAN TTCTCTTCA 600

(2) INFORMATION FOR SEQ ID NO:229:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 539 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1211RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:229:

GATCTCTCC AGTAATGGC TCAGAGACA CTGGTAGGG ACCCTGCCA GGTAGCTCAT 60
 CGCAAAAAG ATAGCAGCG TATGTACCA CCAGCGAGC GGGTGATAAG GAACTGGTA 120
 CGCAGCAGC CATAGCTCTG GTGGCGCTG GTTCAGGCC TCCACTTGT ATAAATGAG 180
 CACGGAAGC CACACTTTAC CCCAGTACG CGAGCCAATA GCACCCCCA TCGCAGCAG 240
 GGTCTTCGC GCGCGCTGCA TCACGATGTG TTGCGCTCC ATCCCTAAGA GCGCAGCAG 300
 AACGTAGTC AGCGGGTGC CCATCGACAG TCGACTGTG CTCGGAATGC AATCCCCACC 360
 GCGGTGAC AGGTGTGCG TGTTACACAC GTTAGGCAC TAGCTCCGC CGCTGAGGT 420
 CAGGAATACC ACCCGGCCA CATGCATGC CACCACATC CCATATCATN ACATNGGCC 480
 CCTGTTACA ACAGGAANT GCCNAACCT CCTCTGCAG ANGGCCCAA CGCCCCCG 539

(2) INFORMATION FOR SEQ ID NO:230:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 593 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1211UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:230:

GATCTACATC ATGGGAGGCT AGGAAGAGCA AGGCACCGG TGCATTTGTA GACTACAGC 60

TATAATATGC AAATGGCCAA TACCTTTGCC CCGATCCAA AGAAGGGCAC TGTCAAGCAT 120
 ATGTTTATCG AGACGAGCTT CAACCACTTG GCTCTAGGCA TGGTCAGCCA GATATTTCCG 180
 5 CACTAAACAA CGTCTAGAAA ATGACTTGAC CTATGACGTG CCGGGCTTGA CTCATCTTAC 240
 TATCCTCAGG CCGGGCCCTC TTCTTGGCGA GCATGGCTCT AAACCCGTAA TAAGCCCTAC 300
 CAACCCTGAT ACAGGAAACA TGCTTACCG CTGTTACACT TATAAGAAGA ATGTTATCCG 360
 10 CACGCAATTT AATTGGCTTG CCCCAGTTTA AGAAGTTGGG CCAACACTAA GTCACCCGAA 420
 CTATCCCGGA AGGCTACCTA TCATTTACCC TGGAACTGGA TTGTTTGGCT ACTCANTCCC 480
 CAGCNTGAAA ATTGCCCCNA ATTGCCGCTC CAGAANCCT ATCCAACCGA ACTACTCGAC 540
 15 CAAATCTAAT TTCCCTTATA ATGIGAATTA CACTGTNAAT TCAGAANTGA ACN 593

(2) INFORMATION FOR SEQ ID NO:231:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 536 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1212RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:231:

GAGATCTCCC AGTACGTCTT CAAGCTGGGC TTTGGCGTC TAGGATAGAG CCGGCGAAC 60
 TCAGGACTGG TCGAGACGGG ATGCTGGATC CCGAAGCTCT TCATAAGCAA CAACCGCGGT 120
 35 TGCCGCGTGT AGTCATOGAA CCGTCCCTCA GCGAATCCTG CGAGTCTCCA CCTGACATCA 180
 CCATTGCCCA CGATCACCG AAGCGTTTCT GGAAGGAACA CGCAACTAG CAAGAAGCCG 240
 ATGCCGGCCA TGATGCTAGT GAAACCAAAC AACCATCTCC AACGTCATT ATCGAATAGG 300
 40 ATCAAGCCAG CAATAATGGG CGCCCAAAT CCGGCCACN TTTAGGGCCC CAACATNAAT 360
 TACGCAATTG CCTTGCCGGG GTTTTTOGGN GGTGTGATT TCNCTTACCG TACGGGCCCC 420
 TGAGAAAACG AGAATONGA GGAAATGCTG CCCCCCTNTT AAAAAAATAC NCCCATGNG 480
 45 CAGGNTGAAA GCANTTACNC TTGACTATAA ATCANCCCC GANAANNITA NACTCG 536

(2) INFORMATION FOR SEQ ID NO:232:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 586 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1212UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:232:

5 GATCAGCAGT GTCTTCGGG ACGTCAACGG CTTCACGGTC TTGGGTACCG TGGCCAGCGT 60
 CCGCACGCCA TGAAATGCCT GCACTGCGTG CCGCAGTCCA CAGTTGGCCA GCGATGCCAG 120
 ACACGAAAAC ATCCTCGTTA ATGCAGCTTG GGTCTTCGG TCGTCACTGT GCGTCTCGAT 180
 10 TAAGCCCAGG TTATCAGTAA CATCAAAATT TTACATAACT GCCACGTGAT ATACACGTGA 240
 TAAAGATCTA CACCCATGCC CCTGATTGT GTAAAAAGC AACTTTTGAA AAATTTTCTA 300
 CGGTTCATC CGATGAGATG AGCTTAGCCT AGTGCGAGTC CAATATCAGT GCACTAAGTT 360
 15 TATCCAGTGA TACTTGTTCT CGAGCTTTCA GCAACAGCAT CAGTTTACAA ATGCACCCAG 420
 CAGTTATCCC TGGAAAGAAA TCCTACGGTC CGAACTCCA TGATAGTTTG ATACGGCCCT 480
 TACAGACGCC AGCGAAAATC CCACATCTCC NGNGGCTTC AAATNNNCTT CCGNGGTTCT 540
 20 AAAGCTTAGG GGNATCCCA TGCANGGTT TATNAAATTT GANAAT 586

(2) INFORMATION FOR SEQ ID NO:233:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 535 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

30 (A) ORGANISM: PAG1213RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:233:

35 GATCTTTTTT AGAGAGTTCA GTGTGCGAC CAACACGGTC GGAGGCCCTT CAGCTACTTC 60
 CAGAAGGTGG TAAAGAGTCT CCAGTAGCCC CAGGGTGCCG TCGTGGTCAT AACAGTCCAT 120
 40 CTGAGGTAGC GTGTTAATAA CCGCTTTCAG CATGCTCGTA GAGGACTTCT TTAAGAGGGC 180
 AGAACTTATA AACTTAAATG TCTGCTCTAT GCATTCAGG GTACGAAGAG CTGCCAGTGT 240
 CCGAATGTCA TCAGCCGATC TGCTGTTTTT ACTTTGCTCA GAATCGGCC ATAGTTTAAC 300
 45 TNCNGTTCCC AAATTAACCC GGTTCGCCG GACCCTTTIN AACAAAAAGG AAAAAAATT 360
 CCGTTTCCCC CCCNCTNCCC NNNNTGGGNN AAAAATTTTT TNCNCGGNN AAAATTTANC 420
 CCCCCNCTT AAGNCCCATT AAAAAAAN NNNNNNTTT TTTTNTTNT NGNGGCCNN 480
 50 NAAAAANNIN CCCCNTTIN NAAAAANGG NGGNTTNNN NNNNANANN NANNN 535

(2) INFORMATION FOR SEQ ID NO:234:

(i) SEQUENCE CHARACTERISTICS:

55 (A) LENGTH: 603 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1213UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:234:

GATCGCCAC TTCACGAAC CCAGCTCCGC AGGCGGAAAC GTCTGTGCCA GCTCCGCTC 60
 GCGCGACCCC CCACGTTCA CATAACGTA GAAGCGCCCG CCGTCCGCGC CTGCGTGTCT 120
 CCCCCTGTAC CCGCGCCCA GCGGTGAGT CACCGCTTC ACCTGGTACC CCAGCCCCCG 180
 CAACCGCAGT TTCATCTCG TTACGTATGT CCCAGCTCT CCCCCTGCGC CGCCAGCGC 240
 GCCCAGGCAC TGTGCCAGCA CTGTCTGTG CACCGCCCC CGCGCCGCA GGATGCACTG 300
 CAGCAGCAGC CCGGTCTAT CGTCCGCGT CGTCTCGTC ATTGCTCTCC TCGCCCCCG 360
 ATGCACGAA ATCCGCTCT GAATGCTTT GCGTGGCCC GGCTTGGGT GTCTGGGGTT 420
 GATTGCCAG AATGCTGAAC CAACTGACA CATTTTGCCA AAAGAAAGC CAATGTCTCT 480
 CGAACGAATT TCGGNTCTC GTTGAATAA CCGCGCGCC CAGTTGGGTG AAGCCGCTGC 540
 TGTTCACAC TATCCGCTAG GGTTCAGCT TCCTGTGNTT CCACTANTGG NAAACNCTG 600
 CTT 603

(2) INFORMATION FOR SEQ ID NO:235:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 527 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1214RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:235:

GATGTTTAC GTCAGCCAAT TCTGTGTGT AGCCCACTAC ATTGTAGAGC TTATAGATTA 60
 AACCTCGAAT GCAATCATG GGGTAAGCA CAGCTTCTGT AGTCTGCTA TAGCAGAACT 120
 TTTCATCTT AAGGTATGT CTTGAAGCG GCTTTAAGGA ACCCTTCATC GAAGTACTGG 180
 GTCTTTCTAC CCGTCCGCG GAGCAGGATG TTAGCCGAG CTTCGAATC AAATCTTTC 240
 ACTTCAAACT CTGTGTGTG ACCGAAGCA ACTTTAGCTG CGCTTCAGG TTTTGTCTT 300
 TTAGTCCAG AACTGTGGG CGGTGATGT AGGAATTTT TCCATCTGG GTTAAGTTCC 360
 TTCCATATN ATTGACACTG CAGCCCCAA CATTCNAATT TCCANANCC CTACCCCCC 420

NANATGTTAA TTTTTCNGGT TTAAAGGACT TATCNCOCCT NTCAAATTTT CTINAATNAA 480
CTCCATTTGT CCNNAACNAA CAATTNAATT CCCCTGTTC TTCCCNAA 527

(2) INFORMATION FOR SEQ ID NO:236:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 597 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1214UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:236:

GATCAAGACC TGACGGCTTC CTAAAATGCG TAAGTTTAGT ACATAAATTG CGCAAGAAT 60
TACCCAAATC ACCTGCTGTG GAGATACGAG GCAAGCTGAG CCGGTGGATG TGCCCATTC 120
ACACCACTAA CTCTTTGGTG TGTGGCTGTC ATGGTACTGC TCGCTACCGC CGTGTTCACG 180
GCCTTGCTA ACGGGAAGCG ATGCCGCTAA AGCCAAATCA TGTAACACCC AGCGATAAGT 240
CCAAGAGCAG ATCTGAGAG GCTCGACCAG AACGACGTCG CATGGGTGAT GCTACAGATG 300
CCTATCGGTG TGACAGGTG AAGCAACTGT GTTCTGCTTC AAGTAATAGC CAACTTGGC 360
GCGGTAGAGA ATGACACTGC GTGTCTGTG CATATGTTGG CACTATGCAA GGTACAGAT 420
TCGCAAGCTG CCCGAATGTT GGGCCAAATT CGAACAACCA GCCAGCTATT GGTATGGAAT 480
TATATACAAC TTGGTGGGG AGGAATTCG GTGAAAAAG GCGCACCAGG NAACTTTACT 540
GGAACGGGAA NCGGGNAATT TCCCCCNC CCGGGTTTT TGGAACCGGC CCCNTTG 597

(2) INFORMATION FOR SEQ ID NO:237:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 754 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1215RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:237:

GATCAGAGCA AAGTGATCA AAGCATTTT GGACGACCG TAAGCTGCCA CCGCAGGATG 60
GCCCATCTGA CTGAGCCCCG AGGTACCGC AATGAAAGCG CCTGCGACT TACGTAGCAG 120
TGGAAGCGCC TTGCTGGCCA GATTCAGAC GCTAAACAGA TTAATCTCGA ATAGGCTCT 180
CCATTCCTTG ATGTCCGCT CCGGATGCG TTGTTGGTAC GAGACACCG CGTTCGCTAC 240

GACAGCGTCT AGCGGCCCAT ACTCCGAGGA CACCTTATCG ATCAGGGCCT GCACCACACG 300
 CTCGTACAGTG ACGTCTCCGA CAACATAGTC GAATTTCTTG CCATGTCTCG CCTTCAGCTC 360
 5 CTGCAATTTG GTTTCCGCCC GTGCAACCCC TACTACAACC ACGTCGGGGG TTGAGCACAA 420
 TCTGTCAACG GTTGCCGCGC CAATGCCACG CGATGCACCT GTCACAATTA TAACCTTCAT 480
 TCTTGCTTGG TACTTTATCT TCAATGGGCC ACGAACGCTC CCGCTGTTAG TTTATATATG 540
 10 ACTTCAGGGG CTGTTGCCAC AGCTCACTAG CACACTACCC TTCACATGTC ACACCAGTTC 600
 GAGAATGAAT GGCACAGTTC CATTTGTAAT CATGATTATC AATACAATAT GTGTGTGAAT 660
 TATTGATTTG TAATATGCAT AATATAGATG GTTATGATTT GTAATACAGT AAATATACGG 720
 15 TAAATATAAA GTATTTTAAG GAATATTTAT AATT 754

(2) INFORMATION FOR SEQ ID NO:238:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 776 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1215UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:238:

GATCGCCCGG GGCCTACGTC ACTGCAGATT GCGCGAAGCC AGGAACAAGA CGGACACTAA 60
 GTCATTCTGT TTATGTAGAT TGGGTGCGCA GCAGCGCAGG CCGCGCCGCT GATCTAGCCG 120
 35 TACCGCACCA ACGCGGGGAC GCATGCGGGC CCGCGCGGCT AAACCACGAC CGTCGTGCCC 180
 GGTGCCAATG GACCGCGCGG TCATCCACCC CGCTCAGCCG GAATGTAGAC CAAAAAAGA 240
 GTGTGGTTC AGCTCTCAA TTGGGCTGGT CTCAAGGGT CCGGGCCCCG CAATCGCCTA 300
 40 TATAAACGGA CAGCGGAGAC AGTCCTGCA CTGTGAGGA CAGGCACACC GATGGTGAGG 360
 GTTATCATTG TGACAGGCGC GTGCGCGGC ATCGGTGAGG CAACCGTTGA AAAGTTGTGC 420
 ACAGCCCCCG ACGTTGTGGT GGTGGGAGTT GCGCGGGCGG AAAAGACTTG AAGGTGCTGA 480
 45 AAGAGAGATA TGGCAGTAA TTCGACTACG TTGCTGGAGA CGTCACCGAT GAAAGCGTGG 540
 TGCAGGCGGT GCTCGACAAG GTGTCTCGG ATTATGGCG GCTAGACGCC ATCATAGCGA 600
 ACGCAGCGGT CTCGCGCTTC GAACGCATCG CCGAGGCAGA CATCCAGCAG TGGAAAGCGA 660
 50 CGTTTGAGAT CAATTGTTTA GCGCGTAAG CCTGGTGAGC AAGGCGCTCC GATGCTAANG 720
 AATCCAGGG TTACGGTGAN TGTGGTTACC TCNNGANTCA ACNAGGTAGN TANCCG 776

(2) INFORMATION FOR SEQ ID NO:239:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 546 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1216RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:239:

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GATCAAGTCT TTTATCACTA CAAATGAGCA GCGCTTAAAT TTCCAGAATC GTTTACAGCT   60
GGGTACGCTT GCAAGCAAAT TTGGCCTTT TTGAGTAGCG GAGGAACAGT TCGCTCAGCG   120
CAAGCGCCTC ATGCGGCGTA CAGAGCGCGG CGAGCTTTAC ATGTATTACA AATCTCTCAG   180
CGGTTCTTAT TCCTTAGCCA AAATGCGGAC CTGCTTAATA GATACTCTGC GTGCCTTTAA   240
TAACGAGCGG CACTCGTCCC TCCGTAACAC ACTACTGGCT GCGCTCTATC CGAACACATA   300
TCCACTGGCT CCGCCGCAAT AATGCAGAAG AAGAGGTCCA TAGATGAGCT GAACCAGCCA   360
GCGCCANCAG AATGTACTCC CACTTATGCG AACTCCNANA NTGGAAGGCC CTGCATACAT   420
TTCCGGTCCC ACCNACTTCT GCGTTCCCTG GCTTACCACT CTGTGAACC GAATNGTGG   480
GCATGCCCTT CCAAAAACC CCTGGAAATC CATAAATACC TCNCGGGGGT TANCTGGCT   540
CCCCCG                                           546
  
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(2) INFORMATION FOR SEQ ID NO:240:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 593 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1216UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:240:

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GATCTGTGAA TATATGCTTG GGGTCGATTG GTTTGCCAGT GCTATAGAGA GCGGTCACCG   60
CGGTACGCAC GGCAACTCTT CGAGTTGTCA GCCCAAGTAG CCGATCATA TACAGGTGAT   120
GGATGGCTCC TGTATACCTT CCCACACTGC AAGCCCTGA GTTGCTCAGG TGTACTGCG   180
GCAGATGGTC ACATCGCTTC GGAGTATATA GTCTGGCTT TGAGCCACTT AAAAGGGGCT   240
CGCCGGCTAG CCCGGCGCGG TGGTCACTG ATTGCCATCT GCCCCGAACG GAAACGTAAC   300
AGGCGGTGTG AACGTGGTGC TCATCCGTCA GCAGGCCGGT CTCCCAATGT ACTTCGCATA   360
TGTTATTTTA CGTTTATGTT ACCTATCGAG GGTGCTCAG GGTATGCCC GCGGTGCTGC   420
  
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COTGCCACGG AACCCGCAGC CTGCAACCT CCGTAATTGC CCATGGTGAA TTGAACTNC 480
 AAGCTTATAT CTCCTTGCT GATCCCCAT NATGCATTG AAGTTCNCA NAGGACAAGA 540
 AACANACNCA AAAAAACNAA TGGTTAAGTA AAATTGATT GGTGTTCCCN CCGT 593

(2) INFORMATION FOR SEQ ID NO:241:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 592 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1217UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:241:

GATCTCGTTF	CTGGGGATT	TTATTGGGT	GGAGAGGAC	CTTGGGCTA	CACCACTGAA	60
GGTGTGGAG	TTCTCCAGT	GAGGCTATT	GAAGTGATA	TCTGATGATA	GAGCGCTCAA	120
ATGTTCTGAT	CCTGACATCG	AATAGAGCGC	ATTTTCTGT	ATCGTAGCCG	CTGGGTCTC	180
GGTGGGATA	TCTTTGATGT	TTGGAGTGGT	GTTGTGCATC	ATGTACACCA	TATTTGATGT	240
AATCGGTGA	ATACCATGAG	GAAGTGGACT	CATTTGATTG	GCTGGTGGCT	GGGATGTGT	300
TACCATTGGC	GTAGAGGTTA	GAAATTTGGT	GAGTTTCCCA	AAGGAAGAGC	TGGCTGGCTA	360
GCAGATGAT	GGACTGGCGT	TCAAGCGCCA	TGTTTCTCTC	TTTGGAGGTT	AAAAATTAGG	420
AAGGGGACAA	GGACTCCCT	GAATCTACT	ANCCCTCTCT	AAAACCTGGC	AATATTGGTC	480
CCCTGAACAG	ATGCNCCNC	CACATCCCC	TATTAAATTT	TTTAAACACC	ATATTGTGG	540
ANACCTNGAA	NTTGAACCTG	CCNGCNAANN	GATTCCTCTN	CCTCCCCAGA	TN	592

(2) INFORMATION FOR SEQ ID NO:242:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 558 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1218RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:242:

GATCTTTTGTG	GGCCACGAGC	ACCACCGGAG	TACCGCCCGT	GGCTTGGAAG	TACCACTGAA	60
AAATGTTCTG	CATGAATCCC	ACCTTGATAA	TACCCATGGA	CCACTGGAAG	TTCTGCGACC	120
ACCGAGCAGC	GATGGGTGGC	ACACGAGCCA	CTCCCATCAT	AGACGTGATC	GCCAAATTIT	180

GGAAGTACGA GAAAAGAGAG ATCGAGTTTCG AAGCGATGTG CCGCGCAGTG GTTGAGTGGC 240
 CGATCACAGA CACAAACCCG GAAGTCCAGG ACACCCACAC CAGCTATCGC GCGGAATCGG 300
 CCACGAATGC ATACTTCGTC TGCACCGTCT TCGCGTGGCG ACAGCACCCG CCTGCAACA 360
 CAGGCCCAATT GGATGCTCCG TACTGGTGTT TCAGCTTTCC GCNAAGGCCT TTACACCATC 420
 CGTCTTCCC AGTTCGCCNG AAAATATACC CCGCTTGGT ATCTTCCNT GAAAAATCAC 480
 CGCCGAAATT TCCAGTTGA ANCTCTTTG ATTCCCCC CMTGCCCTCC CCCAGNCCG 540
 GANATTCACA ACNAATNC 558

(2) INFORMATION FOR SEQ ID NO:243:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 604 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1218UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:243:

GATCCACAGT TTCGCACTG AACTTACTAT CCTCAGCAA CCGCAGGTCA TCGTCAAGCG 60
 TTGTGACATC AGGCTTCACC CCGTAGCTCA TAATGCTGG GACGGATGCC TTGTTAGAGT 120
 AACAAACAAA AAGGCATGTT GGATCAGCTG CATAAGCTAG TAAAAAAGAG CAGACGCCGC 180
 CTGAGOCCT AAAGGCAACG ACCCGCAAT ATATGATAAA TAGAGAATAT AGAATGTTGC 240
 CACTAGGCCA AGATGACCTG CATTGAGATC CAGCGACAAA GTGCCAGGAA TTAAGGGATC 300
 TTCAACATTC CTGATCATAT GAGAAGAGCA ATACAGGGTT AAAACGGCGG CGTTTAAAT 360
 TTCACAGACT CAATCAAATG TTTCACAATA CCTGGTTTGG ACAAGTCCGA GACATCCCCC 420
 TAACTGATCT GCTCCCCCA GCCAAGGATT TTGCGGCATA TACGGGCCAT ATTTTGCTTG 480
 ACGATTCTTT TGCAATCCTC CCGAACCAC AAANACTTA GGGGCACNAA CCGCCCCATT 540
 CCNANNGAA AAAAAAATA GGTGCTTTGN ATNNCCGNA CCCCCCCCCC CCGCTMTTC 600
 CCG 604

(2) INFORMATION FOR SEQ ID NO:244:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 550 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1219RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:244:

5 GATCCTGATA TTGTACCGGC TCATAAATAC TTTGGATATC TTGGGACAAT GTATCGTACC 60
 CGATACCTTT CAGCACATGG ATCAGTATAT CATGCTTCTT CCTAAATGCA GCAACAGTAT 120
 10 TGAGGACTTC CTTCAGACTG TCCGTCTGAG TATCTATCTT CATAAAGATG AACTTTTCGG 180
 ACCTCTTCTT CATCAGCTCT CTGATGAGTG ACGTTGAATT CTTTAAATAG CGCTTCCAC 240
 TGGTTTGATA ATCTTGATAC AGTGGTCCAT AGTCTCCCT GGAAAGAAAT GAAGTCGGAA 300
 15 GAAATCAGTT TTGGCAGCAC TCTCTCAGTT TCTGATTCAA CTCCGTTAG ATATTCTCTC 360
 CCACAAATGT TTACGGCCCT ACAGTTGGTT TCTTTTGANA CCTTCACTTC CNTCCNAAGC 420
 CATGAAAATG ANTCCATNC CCCCCCCA CTTTGINAAA NTCCCAITC GCAAATTNCN 480
 20 CAGTTGAATT CCCCCANCCG GGTGTTCCTC GGTTCCTCC NAAAAANAC NGAGGGGGGT 540
 TTTAAAAAAN 550

(2) INFORMATION FOR SEQ ID NO:245:

- 25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 598 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1219UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:245:

35 GATCGCGGG CTGCGCGCGG CGTCGGAGTG GCGCACGTG GCGCGGCCCT TTTGGCCAAA 60
 40 TCCAGCGGT GCGCGGTTT CGAGCTGCTT GACCTTCCG GGCATGTCAA AGTGGGGGT 120
 TAGTTTGGTC CTGTAGGGA ACTGTAGCG CGATCGACC GTCTGCCGA CGGTGGGAG 180
 CAGGCCCTCG GCCAGCAGCT GGGAGCAAA GAAGTTGAAC GCATTTGACA CGGTTCCTG 240
 45 TTTGAGCTGC AGCTGCTGGT CATACGTCAG GAAGTGATAC TGGCAACCG AGCACTTCCC 300
 GAAGTACTTG CAGTTGATGA GGTGCTGTG GGCATTTC AAGAGGTCT GCACCTCCAG 360
 CAGAGACGCT TCGCGTAGT GCGGTGTGTC TTGTGCACTT GGATGGTGAC CAGTCCGCC 420
 50 TGGCCAGCCC AAATTGGCAC CCAGCACTAC TGTTCTCTTG TTTGCTATCC TCCGGGCTG 480
 TCCAACAANA CCCATCCCTC CCCATCCACT TTACNCCAC ACATCACTTT CATCAGNCC 540
 GGTGTGTTCT CTGCTGCATC GCGCCCGAA TTNTTCAGA ATGATTACTC CTCNNG 598

(2) INFORMATION FOR SEQ ID NO:246:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 747 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1220RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:246:

GATCGCGCAG TTGTGCCCCC CAGCCAGCCG CTTTGTGGC ACGCGCGGA GCGTGCCAT 60
 GTACCCGTG GGCACGCCCC CGTCGCCCTC GCGATCAGC TGCAAGTCT GCTGTAGCTC 120
 CTCGGCCTC AGTCTCAGC TCACATTTAG TAGCGCGGTG CTGTGCCAT CTGCCCTCTG 180
 GAACATGTCA GCCAGCTGCC TGGGAAGTTC GGACCGTGC CCTGGTGGT CTGTGAGAGT 240
 TAGTATTCTT GCGCGCAGTC GGTGGCACAT TGGCATCACT TACTATTGTC GCTGGGCATT 300
 CACCTCCCTG GATCACTGGT GCTCCCGGTG GCGTAAGG GCAACAGACA GCCTTTTCTT 360
 ATTTTCTCT ATAATACGCT GCTCTATGTA GCGTATACTA TACAAGTCTT AACTAAGGTG 420
 AAGTGAGAAG TCATTATTTA GCTGCGTTTC GCGCGTCAT GCAGCGGCT ACCATATTAG 480
 CATGCCCGTG GCCTTGACCG CTTTGGACGT GGGGAATTG TTGATGCCCA AGGACCTTAT 540
 GGAGTTCAAC CTCACGGAGA GGTTCGAG ATCGAAAATG TCACTTTGGG CAAATTGCGA 600
 CACACCGTAA TACTCGGCAA ACGAGTTCTC GACACCGCTG AGCTGGTGGT CGACGTGCTC 660
 GACATAGGAC AGAAGAGGCT TCGTTCGGC TGGCGGGCGC GCGCGCGCAA CCGGAAGNGC 720
 CCCCCANAG CTGGGGCCNG GCGGCC 747

(2) INFORMATION FOR SEQ ID NO:247:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 777 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1220UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:247:

GATCCAGAAT ACTCGTGGCA CCACTTCTTG AACCGCGGT ACAGCGCGG GTCCGTGCGG 60
 TCCAGCGCGG CTTGTGCGC CGCGTGAAC AGCGCGCGT CCTCTGTGA CAGGTAGCTT 120
 GCGTCAGGT CCGAGCGGCC GCGAACCAC CAGTCTGCG GCTTGCCGC CGCGTCCAC 180
 GTCTCAAAGT AGCGTAGTT GAGGTGCAC GTGCGCGGT GGGGTTTAC GGGGTGCATC 240

ACCAGAGAAA TGCCGCAGGC GAAGAAGCGC ACGCCGGCCG CCGGCTGCCC GGTCAACGGG 300
 TCCGTGGGGA GGTGCAGGTT TTTGTGCTCG GCCCGCATGG CACTGACGGC TGCCGGCGAC 360
 5 AGCTCGCCGT GGACTACCGA GACGTTAAGC CCGGCTTTT CGAAGTGGT GCGTGCTGC 420
 AGCACGCAAG ACGTCCCGCC GCCACCTCC TTGCGCTCCC AGGAGTCGGC CTTGAACCTG 480
 ACCGTGTGCA TCGCTCGAA CCGGCTGTA ATCTCGCGCT GCTTGCGGCG CACGAGCTCT 540
 10 TCCATGCGCT CCGCATGTG GGGGCTGTG GCGATGCCA TTGCTGGGGC GCCGCAAGAG 600
 GCGAAATNAN CNGTGGCCCC GCGGCTTAT ATAAAAGCGT GGCACGGGTG TTTTGCCAC 660
 GNCACCANGG GCTGCNAACG TCCGCGCCAA NANANCCAGG GTCCCGGCCA NAACACNTCG 720
 15 GCGGCGGGCC NAACGCGCC NNCACAATC ACNCCGACAA TCGCGCNCNG GGATTCC 777

(2) INFORMATION FOR SEQ ID NO:248:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 537 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1221RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:248:

GATCTCTGCT GTTTGGGCTT GCAAGCATCT TCCTCGCTAA CTCGTTCGGC GTTTACGTTT 60
 GAGGTTGCGG GGACGTATGC TANACCGAGG GCATTGCGGG GTTGAGGGGA AGAGGTTGAG 120
 35 ATTATGAATG ATATATACTG TTATACCGGC TGCGGGTGGC TGTGCGGTC ATCAGGAGG 180
 ACTTACAAGT TCAAAAGGTC TTCATCGATA TTTACCAACT TGTAATAAG CTCTTGAG 240
 TCTGAGTTGG AGGAGCGGG CTGGTCGCCA TACTCCATCA ACGTGTTTAC CATTGCGGT 300
 40 GTATAGCTGA TCAGGTTTTC GAGGGATGAC TCGCTCTCT CCTTTAGGAA CATCAAAATG 360
 GTGGTGTTCC ACAANCNGGA AAACCTATCC TGTTAGTINNA GAAGGTTGA GAACACCGCT 420
 AATCCCTTAG GCACTCCACC ATGGTTTTAT CCGTACCCCA TTACCCAAAT TTCCCCAAG 480
 45 TGCCCTINAA CTTTGNOGAA CCCCCGNAA ATNCCGTTT TTAAACCCN AAAAANG 537

(2) INFORMATION FOR SEQ ID NO:249:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 584 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1221UP

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:249:

GATGACCCCT ATCAAGCCT TGCAGGCTGC TATGGAGGBC TATCAGGTCA CCACTATGGA 60
 CCAGTGGGCC AGCTACGGCC AGGTTTITGT CACCACCACC GGCTGCAGAN ACATCATCAA 120
 10 GAAGGAGCAC TTCTTGGCCA TGCTGAGGA CCCCATTGTG TGCAACATCG GCCACTTOGA 180
 CATCGAGATC GACGTGGCCT GGCTAAAGGC CAACGCCGTC GANGCCGTCA ACATTAAAGCC 240
 ACAAGTCGAC CGCTACTTGC TTCTCTCCGG CAGACACGTC ATCTTGCTTG CCGATGGTTA 300
 15 GACTAGTCAA CCTAAGCTGT GCGACTGGCC ACTCTCCGT TTGTGATGTC TTGCTCTTTC 360
 TCCAACCACT CTTTGGCACA GATGGTCTCN TTCAAGGGCA ATNAAAAGGC CTTCAAANAA 420
 ATTNTTNTNT TTCCAAAAA ACGGCCNTCA AANCGGCVIT CATTTCTTNC CNAAAATTGN 480
 20 AAAGGCGCNC CCATTTCGCC CTAAATTGCG GTTNTTNTT AAAACATTC CCCTCCCCCA 540
 TTTCGGGTTT CCAAAAAGGG TTTTNGGGG NCCCTTAAAT NITA 584

(2) INFORMATION FOR SEQ ID NO:250:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 535 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1222RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:250:

GATCGAATAA TAAAAGTGGC TAATACTTGG TAATAATATA ATAGAAAGGG AAATAGAAGA 60
 GAAGTCAAAT GGGAAATAGT CAACGGCGTA CTAGGTGAGT GTTCAGTTC ATGGAATCGT 120
 40 AGTCAGAGAG GTTATCAAAA AACGGCAGTC GTCTGATGAT AGCAGTATCA CGAAGTGCTC 180
 ATGCGCCCTG CATACAATGG CAGGCTCAGC GCAGGATCAA ATGGATAGCA GCGGGGTAC 240
 CCGGGAACGG ACTCAGTGGG TGGAGTGGCC CCGGTGTAC TTGAGGCGGT TGAGGTCTTT 300
 45 GTAAAGTTTG CCACAGACCT CGCACCGTA AGGCTTGTC TTCTCGAACC CATGCCGTC 360
 TGATAGGGC TGGTGGACT CCGGTCCAT GATGCTAAA GTGCCGTCT GGGTTTTCAT 420
 GAAGCTTTTG ATTCTGGTGG CCGTGGTTT ATGGTACTTG AGTCCCGTTT GATCCTGGTT 480
 50 AGTCTTATCG CAGCCCATGA GGGACNNTG AAGGCTTNTC CCCNCTTGT CCNEN 535

(2) INFORMATION FOR SEQ ID NO:251:

55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 581 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1222UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:251:

GATCTGGCTC	AGACCGTCAC	CCACGTTGTC	TGCAAGGGCC	TCGGCCGCTT	TANCTGCTG	60
CCACGGCTTG	GAGCAGGCTA	GCTGCACGCC	AAAGCCGGGC	AGCTCCGAGC	AGTGGCGCTT	120
GGGCAGCGCC	CACTCCGAGT	TGGTGCCCTG	GATCAGGGGC	ACAGCGAGCG	CCATCTCACT	180
GTACGTACAG	TCGGCGGCCA	ATTGGGGCAT	CAGGCGCCCG	AACGGCAGGT	TCCCGACGGT	240
GGTCAGCGGA	GAAACGATCT	TCTTGTGATG	CAGGTCCAGC	GGCTTCTTCT	CCTGTGCAAA	300
GTAGCGTGTC	TGGTGATACT	GGGCGTACAG	CTCGGGCTGC	CGGGCGGCTT	TGTTGCTCAA	360
TTGCTCTCTC	CGCTGCTGCA	CCTGGGGCAC	CTCTGGGACC	GGGCTCCCG	GGCCGCGCG	420
GCCCCCTGCA	TCTGTGCGCC	GGAAGTCTTG	CTGGATGGCG	TCAAAATTC	ACNATTTCTC	480
CCTGCNCNGG	AAGGGCCCAA	NTTTTCCCCA	ATNANCNCCA	ATGAACCAT	GVINCCCCCN	540
TGGTTNCAAA	ACNAAATTTT	GGGGGGGGCG	AGATTNTCCC	A		581

(2) INFORMATION FOR SEQ ID NO:252:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 544 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1223RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:252:

GATCGGTTTT	CACCTCAATT	CGTTTCTGGT	CGGCAGTTG	GTGATGCTGC	TGATGCTGAA	60
GCTGTAAATT	CTGTTTCTGC	TGAGCAAACT	GCTGCTGCTG	TTTCATCCAG	GGATTCTCCG	120
GAGGAGCTGA	GTCCGGTTTG	CGCGTCTCT	GCTTGTGGTT	CAACAAGTTG	TTATATAGCT	180
GGTTCATACC	TTGGGAGGTC	AGGAAGTGAC	TGACATTCCG	GTGCCCCTGC	GGTGGTCTA	240
GCAAACGGAG	CATGGCTCT	CTCTCTGTGA	GAGTTTCTTT	TGCGCCATC	TCAAAGTTCC	300
TAGATTCCAT	TATCAGCGCT	TCTTCTCAG	CAATCTCAGC	CGCCGACCTC	GAAAGCAGCC	360
TCCGTCAAA	ACTTCTTCCG	CTGATTTTCC	CTGGTCTTTG	GAATACGCTA	GGATGTTAGT	420
AGCGGTTTCC	CGGGTCTTT	CGCCCTGAAA	TTATTTTGG	CATACGNGGT	TAAAAATCTC	480

CCCGTANTTC CTCGAACGGT CCTNNANNGC NONTAAANAN ACNGGTCTNGT AAATNATAGC 540
NNCC 544

(2) INFORMATION FOR SEQ ID NO:253:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 608 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1223UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:253:

GATCGCGCGC TTGAACATGG ACGTGGACAC GCGGAAGTGG CGCTGGAGCG CGCGCACCGC 60
TGCGTCTCGG AGCTCTGTGT GTGCCATGGT GCCTCTGTTC TTGAGCTGGC GCACAACCGC 120
GGCGGATATG GCGTGGACCC TACTGGCGGC GAGGACATCT GGTAGCGCGG CCGCCTGCTC 180
GGACTTGACC ACGACAGTGG CGACGCGGAC CTTCGTGGTC GCGCGCGTGA ACGCGGTGTT 240
GACTGCAAAG TGGTCCGAGG GCGCGATGGT GCGGGAGGG AGGGTTTITG GTGAGGATGC 300
GTGTGCGCGG CGCGACGGCG AGCGAGATGA GCTGGCGCTG CAGCTCGGCA TCTGGATTGC 360
GGTCAGGTCC TGAATCTGCT CGTGGTCAG TTCTGCGTAG TCTCCGGAAA AACAGGAAAA 420
ATGGTTGGCG GCATNGTTCA ACATCCTTGG CCGCTGGGT TAAAAATGGC CGAACTGGNN 480
GCGATTTC CCGAGAACC ATTTTGTAT CCGCTTCT TCTGNNCC GATTTTTTTG 540
CAAAANINAA AACCCCCCT AAGAAGANN CGGGGNGCC CCGCGCGGN TTTTTTTTTT 600
CNCCCCCA 608

(2) INFORMATION FOR SEQ ID NO:254:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 731 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1224RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:254:

GATCAGTAAC AACCATAGCA GCCGCACCTA CGAAAGCATT CGATACATTT TTAATAAATT 60
CGACAGCAGG TAGTAGTCTT CTTCGGATT GCTTTACAGG CTCGCTAAAG ATGTGTTCGT 120

AGCTCTTCCA AAGAGAAATT TGTGTAACTT CAGAGTCAGC AGCGGACTCA AAACAGCACT 180
TCAACCAAGC GGTGACCGC ATAGGTTTCAT TCAAGCCCAA TAGTTTTTGG AATAGATCAG 240
5 GGGGAAGAGT TGGAAACATC GTACGGGGTC TCGTTTITAC TCGCCTAACT AGTTTTATCT 300
CTACTTTTGA AAGATAGTCG TAGTCGGGAA GCTCAACATT GTAAGTCAAC AAGCTAGGCA 360
AAACTGTAGT CAAGATTGAG TTCCGCTCAG GGTMTTGACA ACAGAGTAGT TATTCTCTCA 420
10 CTCCCCAGGC AAGATGTAAT GGTATAGAAA ATCCAGTTGA AGCCATAACC AGCTCGTTGT 480
CACAGTCCAC CAGAAGATAG GANACATCAG GTTGAAGAAT TCTTCATCTA GGTATCTG 540
TGCTTTTCTT GTTCTGCTTT GGACCAACCC ACAACCCNAA AACCAACCCN AAATCAAANA 600
15 CCNGGTTCTT TCTTGTGCTT CCCNAAATGA AANAGGTTTT GAAANGGTIN TCCCTCTTGC 660
CGGGCCAANT AAAAAAAGG CCNCAGGNT CNACNATATT ANCANCCCC NAAAAAGGCC 720
TTCTGNTCTA A 731

(2) INFORMATION FOR SEQ ID NO:255:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 762 base pairs
(B) TYPE: nucleic acid
25 (C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1224UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:255:

35 GATCGGGTGC GGCACATGCC TCATCGGGCA GGTGGGGTGG CGGAGGCATA AACCCACCCC 60
TGTTGTGTGC AGTGAATAGG TATGGGTACA GCTTGGGCG CCACGAATGT GCGGAGACGT 120
TTACGCTGCC AGAGGGACCC GACCCACCG GTGGACTGTT GCCTTGGTTG GACGCTCCAG 180
40 GGTTACGAGC CGGCGCCCTG CGGAGCACAT GATGTCGAGC TGTGCATTGG TCCAGGTGCG 240
CACTAACCAT GCCAAGGGCA TCGGGCCAAG GCGGATGGG CTGGACGGCG CCAGGGCGGG 300
ACGACTATCA CTAAGAAATC ATCGATTAAA ATATAAACTA CATAAAGTAA AGGGCGGACT 360
45 GAGTGCACCTC TCAGCGCACT AGCAGCGAGT AGCGTAGTT GAACCACTTG CNTGCGATCC 420
GTGGCACGAA GCGGAAGTAA CCGGAAGTCC GATAGTTCAG AACGAAGAAC CGAAAAAGCC 480
TTAAATGGC TTCACNCTA GTTCCCCCAA CNGTCTCTC TGTTTGGAAT TAGGGTGGGC 540
50 GGAAACCCAA ACTGCCANT TGTINTCCAA TTCCCGGNG GCGCCAAATT NAATTTCCAA 600
ACCNATCN CN ATCTCGGCTG NATCCCCCCC NTGCCCCCCC TCAATGGGCC CGAACCTTTT 660
NTGNCCCCC CCAAGGGCC CTGNGNATT TTTTCCCG CCGNCCGNT TTTCTTAAAA 720
55 NAAAGCNGCA TTTTCAATT CCGNGGAAC NCTTTTGT TT 762

(2) INFORMATION FOR SEQ ID NO:256:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1225RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:256:

GATCCTTTTC TTCTCTTC CCTCCTCCGA GGATTCCTT TTTGAGCTTG CCCACTGCGC 60
 CCAACCCACC GCCTATGACA CTAGTACCGG CGGACAGACC AGCGGATAAG CCCTTATTGG 120
 CAAAATCGCC AACCTTTGTC TCCACCTTGG TAACAGAGAC AGTGTACCTA GGAGAAAATT 180
 TGAAGTTCAA GTAAAGAATA CCACCGTCCT CGCGGTTAGG ACCAGTTAGC TGGACTTCCA 240
 TTGGGGTTTC ACTGTCTGGG TCCACCTCAG CTAGAGGAT GGTTCGGGTG CCAATGAGAT 300
 CGTCACTGTT TCCGGCATCC CAGTCCATGA CCTTGATGCG CAGGTAGTTG TTAATCCGGT 360
 TATTCAACTG CAGGGATGTG TTCTCGTTCC AACACGGTTC AAGGCTCTTC TTCTGGGTTC 420
 TTGGTCTTGT ATATTACCTC ATCTGAATTG TCGAGGTAG AATTTGACAT AAGGTCCGAC 480
 TTGCCGTTC GGTACGAGG TAGAGCCTGA CTGCATTTAG AACCTCCAGT GTTAGGTGCG 540
 AGTGTTCGTA TCAGTTTGCT TGTNGCATCT CNAACCCAAA AAGGAACCAC AACCGTTANN 600
 TCCTTTTNG ACCCAACCTT NITTACAANN AGGTTTAAAT TACANTTTCN ATTINTTGN 660
 TGAANGAAC CCNNAAGNT CCNCTGTTT TACTGANCNT NNTCCNAAT 710

(2) INFORMATION FOR SEQ ID NO:257:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 750 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1225UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:257:

GATCCTACTG GAACCAACCA CTCAGGAGCA GGTAAAAA CCAGCCAAAG TAAAGACAGA 60
 GACAAACGTA AGCATCCAA AGCAGACCCC TACTCCAAAG TCTAAGTCG CTTCAGCTTC 120
 GTCTTCTAAA GTGCCTACAC CCTGTCAAA GCAGGAGCCC GAAGGCGCGT CTACCATTTT 180
 TGAGGCTCCT TCTTCTCCT CCTCCACTCC GGTGCGTGG CACTTGATA TCTTTAGCAA 240

ATTTAGGAAA GCATOCAGTG ACTTTGACAA GGCCTTTGTG GCGAGTGA ATGAAGTTGC 300
 CGAGAAGCCG TCCGGGAAGG CCAAACGGCA AACTACTCCC GCTGCCAGCA AATTAAAGCC 360
 5 CGCTGCAAAG AAAATAAAGA CCCCCCGCT CGATGAAAGC GAATCTGATT TTGACCTTGA 420
 CCTCAGCGAC TCCCAGCCCC CCATCGCCCC TAGAAGTAGA GCTCGCGAG CTGTGCGCAA 480
 AAAGCCAACC TACGTAGTTG ACCTTTTCGA TGACAGTTTT GTTGATGGAG ACGCCCAGAG 540
 10 ATGTTGAGGA ACCGATACTG ACGAATCCIT CCAGCTCTGA CTAGCACTCT AGCTCGGCA 600
 TTGACAGTNC NCTACCTTAT GGAGGNTCC GAAATCCNTT GAATACCCCC CGTTTTTTAC 660
 TAAAAACCCC NCTTTCTTTT TCACCCCCCA ACCCCCAGGG GACGAATACT TTTTTCTTTA 720
 15 CTTTCTATCA NGGGTTCGT CCCCCCCNT 750

(2) INFORMATION FOR SEQ ID NO:258:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 729 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1226RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:258:

GATGTCCTC GCATGGGAGC ATCAGATGTC ATATCGGCGA AGCCTTTCCA TATGGCGGCT 60
 ACGAAGGATA CGAGTTCCGC TCTGCTTGC GCTGTGGGG TCTGTGAGCG TGCTGCTATT 120
 35 GCTGTGCTG ACGCCACACA TGTGGCTGG ATGGCATCT CCGGCAGCAC GGGAGGTCCC 180
 GGCCTCACCA GAGTCACAGG CCCCCGCTC ACCAGAGTTA CAGGCCCCCG CTCAACACA 240
 GCCACAGTCC CCAGCAGGT CTAAGACGCT ACTGCAAGAC TTACTGCTAG ATAGCAAAAA 300
 40 ACCGGAGGGG GCTCTACGC CACAGATGCA GTGCAAGCGC TACTTTGAGG GCACATATCT 360
 CCGGGAGCCT TCTGGGCAA ATAGCGTGTT GCGCATGGCA GACGACTTTC TTACGGCTAC 420
 GCAATACACA GCGAGGCTGT TGGAGCGGTG GCGCATATTT GCTGATTGTT TCGTTATTCA 480
 45 GATTTCCGAT TTTCAAATAC NCTATCCAAA CAAAAAAAC TGCCCAANTT CCATCAGCGA 540
 ANITCCCTT TCMINGGCAA AAAAAAAN NGAGGANATT TTGCTNTCC CCNGAATTC 600
 NCCCGGAAA ATTTTAAAG NGGNTTTTTT GNAAANGGC CCCACAAAA NANAAAAGGN 660
 50 GCCTTTTGTG GAAAACGGGC CCTTTTCCCC GGNNGAACA AATTNNNNNN GGGGACGCC 720
 NGAATTTTC 729

(2) INFORMATION FOR SEQ ID NO:259:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 742 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1226UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:259:

GATCGCTTCA AATTTCCAGC CGTTGATATT CAAAGAGTGG TCACGTTCCG AAAGATGGTC	60
CTTCTGTTCG TCTGTACGTT TGGAGGGCCG GCTTACCGGG GCGTTCCGGG TTGTCTCCAC	120
GGTCCGGTGC TGTCTATGG GGACATCTG GATGTTGTC TGCAACGCAT TAGCAAATGA	180
GTTTTTGTAG TGGTACTTAG GAAGTTTATA ATTTAGGCTC AGTCTATAC TGCCGCTAAT	240
ACTTTGACCT GGAACAATCA TCGTTATGIG CTCACCTCTG GCGTGTCTC TAGCGTATTC	300
CCGCGTGCT TCAGCATTTG GTTGTCTCTG GATCGTTGGG TATGGATCCT CCCACTTCTG	360
TAGCCAGTTG GTATCCAGCT TCTACCCCTG CTGATGCGAT TCTGGACGG GGGGTTTCAG	420
CAGCGGTTAG CAATGAAGTT GCGGTTGCCG GTTCAAAAAA AAANACCGN GGGGGCINTG	480
TAANCCCGNC CCTTTAAGG CGGCCCCATA TTCNCNATNA CCNNACCGC NCCCCCATN	540
ACGCCCCCAA AANATNTTG AAAAAATTGC CNTACCTTTT TGNGGGAGCC CACNCNTTA	600
NATAACCCAT TTTTGAAAN ANGCCNNTCT TTNTTTTAA NCCNCGGTC NENANTATGC	660
NGGGCAAAA TTAAACNCC CCCCNAAT GNAATCNNT TCCCTCNAA NACAAAAAT	720
ATTTTNTTT NGGGGNGGA AT	742

(2) INFORMATION FOR SEQ ID NO:260:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 744 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1227RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:260:

GATCGATGAA CAGACTGGAG AACAGAGAAA GGTGGTGGCC CTCGAACTCG AACGGTTTTT	60
CCCCTCGAT TTGTATGAGA TATTACTCCG GGATACGATG CAGAGGAACG CAGCTATGGA	120
AGAGGAGGAC TACAGGGAGC TGGGAAAAG AGATATTGAG GTGGCGTTCC AGAACACCGG	180
CGTGACCTG GATGACAGGC TCCAGTGGT GCCGGCCATA TCGCTCTTCG GGAGGTATGT	240

ACGGGATATC GACGGGATGT CGGAAGCGCT TCGGAGCGG GACAGGCACA TCATGGTGT 300
 TCGCGCGACA AATGACGCCA TTACCGCGAT GCCCAAGAAG CCGTGGGAGT ATCCACGGAA 360
 5 CATCGACAAG TTGGAGCAGG CAGGCGCGTC TCGGAGCGAA ATCCACGACG CCATCCAGGC 420
 GAATGTGAGA CGCTTTGTGC TAACCCACGT GGTITTCOGAC ATCGACCTCT CTAAGGTGGT 480
 TCGGGAGAGT TGCTCCAGCC GTGTTTGACA AGCGACTTCA TCCCAAGAGC ATGCAGGGGA 540
 10 TATTCTTTTG CGCCAGGAT GGCAANGGT TTACAGTNTC NTOCAANANN GGGCGGACCT 500
 TCGCGTINAG ANGTTACCCC CCGCTCTAAC GGTITATTTT GGTINTACIN CCCCCTTGGN 660
 TCGGAATTNG AAAACCTCC NCTGNGCCN NOCCAATNAN TGNCTTGAAT CCCCNTTNG 720
 15 GAACNNNNN TINCCCCAN CNCC 744

(2) INFORMATION FOR SEQ ID NO:261:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 768 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1227UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:261:

GATCATTTGC CGGACCAAGA AATATTTTCA CTCTCGAAG AGCTGGCCAC TAAACTTCGT 60
 GTCTGGTTAG GTTCCGCTCC AGCTGATGTG CTAGATATCG AGGTGAGAGG TAAGCTTATT 120
 35 GAATACTGCA TGAATACTGC ACTTTATTGC GGTGGGAAAA TAGAACATCC TACATCGACG 180
 ACTTTGATGA CTGACCATGA TGAAGACGAA TCTGAANGCT CTGATTGGGA ATAGTCCAGG 240
 CAAGTTAATA CCCAATGCTC GGCTTTAGCC TCAAGGGAGA TATCGGTAAC AGCTCTATCT 300
 40 ATGCTGOCAG CAGGTAOCAG TTTTACTTAA ATTTGGCATA CAGTTCATGG TATTTGACAT 360
 AAGCTTAATG TTTCATTCG AACACAAGG TTGCCGATGT GTAAAGTGG CCGGCTCTCT 420
 GCATTCAAGA CAGCATACAT GAACTTTCAG TTTTATACGC CGATCATGTT GATTTCTAAT 480
 45 AGGCTAGTTC CATGGCCCTT ACCTATAATA TACTACCATC CAGCCCNCCG AACCGNAACN 540
 NNATTTTPTA TTITAATNAA ATTTGGGGG NATNOCACAC NNCCCTANC NNGGANTTCC 600
 AATGTTTATT TAANINAAAA ANCAGTTTGA AGGGTATTC NNCCCNCCN CCCACNGNT 660
 50 TCAAAACCAA ACNANACGT GAAGCNGTN NTCCCCCNCA AGGAGNGCCC CCCCCTTCN 720
 AAAAAACGTN NCTTTTNCN CCTTGNCN ANATTCCCCC CGCTGCCC 768

(2) INFORMATION FOR SEQ ID NO:262:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 738 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1228RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:262:

GATCCATTGG	60
CCCCAACGAT GCTAATGAAG TTCTTGCCCTC CAAAACCCAC ACTGTGCACA	
CCCTTGTAAG ACTTGAAGTT CTTCACCTCT AAGCCAATCA GCTCCCCAT CTTTTTGAGA	120
CACTGAAGCT CAGTCTAACT GCTCTGATG TTGTTAGTGC GCTGTTAATA TGTCCAAACA	180
AACCGCATCA TGGTGTGAA GAACTGCGG TTGCGATACA GGTTCAGCAC GTAGCCCAGC	240
GGCCCCGCGG GCGGAAGAT CACTGAGATC GCAGGAACA GGGCGTCCA CAACAGCACC	300
AGAAATACCA AAATGCGCGC AAAGTTATG ATGTACAGGA TCACCAGAGT CACCCCTGA	360
ACCAGATCT GCGGTGGC CATCCGACC ACCATCGACT GCTGAATTA GTATAITCG	420
TCCACCTGC TGTTCATAC ATACCACCCC AGGCACACC AGGGGTAAC AACCCCAAG	480
GNGTCCCTAG GGAGCGCATG CAAATATCC ACNCTCCCA TGGCATCTCC CNNTTGGAAA	540
GGGNGCCCC NAAATTTGGG CCNAAANCC TTAAAAGGNC CCTGTGNCN CAANNACTTC	600
NAAATTTCCG MTTNGGCCCC CCCCCCCTC CAACGGGATT TAAACAGGN GGGNGGGGA	660
AAAACCCNG AGGGNVTTT TTINGCCCT TTCCGAAANA ANCCNCCCC CCNGGGAAAA	720
AAATATTTT TTTTNGG	738

(2) INFORMATION FOR SEQ ID NO:263:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 748 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1228UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:263:

GATCATGCCA TTCTTACGCT TTGCCCACAT GGACGCCAA ATGAATTTCT GTGTATGCCA	60
GGATGCTGAC GATGCAGCTG AAGCAGGAGA CGACAGCGAT GTGACGCTG GTTGTATGAC	120
GCTACTATT TCACCTGTGA ATACTGTTC TTGGCCTCT GTAGACATAA TCTTGTTAAG	180
GACAAAGCTC CTGCTGTGG TGTGTATCAG GTCAAGTAAA GTAAGCGCT TAAATGCCA	240
TTTGGAGATA CCGAAGATTA AGCATGCCA ATCGTTAGC GGCCTAAACT GCCATGGTG	300

ATGCTGGGAA CAGGTAAATA TGGCTGAGG TGCTGTGTAC TTACCTGATA TAAAAGTATG 360
 CAGTATGCGG GGGCTTCGT ACGTTCGTCT GTAGTCTATC GGATCCTGGA TAGATGTTAG 420
 5 TTCACTGGTA AATGGTTGGA GATAATTTTC GTCCCTGCGAG GCTGTATAG TAGTTTCCTG 480
 TGTTTGAATA TTCAATGAAAT GGTGGGCTA GCTTTCAGCA GCTGCTTCTT TAGTCTTTCG 540
 TCATACTGAC TTCTTCGAG ATCTACNCCA CCGCNTGGG GCTGACCCCA GCACACTTAT 600
 10 GATTTTTANA AGGAATCCCC GTAATCCAAN GCGCTTNCNT ACCCTGCCC AATNGTTNCA 660
 TCAAAANGTC ANNCCCTCNA TTTCNCCTTT TCTCNCAAA ACNCCACNT TAATTGAANA 720
 NGNCCNTTC ACCGCGAGAG GTGGCGNC 748

(2) INFORMATION FOR SEQ ID NO:264:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 653 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1229RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:264:

30 GATCGTAACA ACAAGGCTAC TCTACTGCTT ACAATACCT GTGTACATC TAAGTGTGT 60
 ACAAATGATT TACTCTCGG CAGTATGACA TTGCAATCG CCGCACGGG CCCAGACCTT 120
 TCGTCTGAA CACCAGTTC CCGCTGCTA TGGTTCAGG ATGCTAAAAG CACCTTATTC 180
 35 GTATCCATCT ATAATGTGCG AGAAAAAGAA TCATCGCGTT CTAGCATGGA TTCTGACTTA 240
 GAGGCGTTCA GCCATAATCC AGCGGATGGT AGCTTCGGG CAATGCCCG TCGACAGCC 300
 GCAAAAACCA ATTATCCGAA TGAAGTGTTC CTCTCGTACT AAGTTCATTT ACTATTGCGA 360
 40 TAACATTTCAT CAGTAGGGTA AACTTAACCT GTCTCAGGAC GGTCTAAAC CAGCTCAGT 420
 TCCCTATTAG TGGTGAACA ATCCAACGCT TACCGAATTC TGCTTCGGTA TGATAGAAGA 480
 GCCGACATCG AAGAATCAAA AAGCAATGTT CGCTATGAAC GCTTGACTGC CACAAGCCAG 540
 45 TTATCCCTGT GGTACTTTCT GCACCTCTAG CCTCCACTCC CGAGAATAA GATTGATAG 600
 CACACTTTCA TGTTGTATC AACTGAATC AATCAGGACT TTACCTTGTC TAC 653

(2) INFORMATION FOR SEQ ID NO:265:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 528 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1229UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:265:

	GATCAGATAC CGTCGTAGTC TTGGCCATAA ACTATGCCGA CTAGGGATCG GGTGGTGTTT	60
10	TCTTATGACC CACTCGGCAC CTTACGAGAA ATCAAAGTCT TTGGGTCTTG GGGGGAGTAT	120
	GGTCGCAAGG CTGAAACTTA AAGGAATTGA CGGAAGGCCA CCACCAGGAG TGGAGCCTGC	180
	GGCTTAATTT GACTCAACAC GGGGGAACT CACCAGGTCC AGACACAATA AGGATTGACA	240
15	GATTGAGAGC TCTTTCTTGA TTTTGTGGGT GGTGGTGCAT GGCCGTCTTT AGTTGGTGGA	300
	GTGATTTGTC TGCTTAATTG CGATAACGAA CGAGACCTTA ACCTACTAAA TAGTGCTGCT	360
	AGCATTTGCT GGTTCGCAC TTCTTAGAGG GACTATCGGT TTCAAGCCGA TGGAAATTTG	420
20	AGGCAATAAC AGGTCTGTGA TGCCCTTAGA CGTCTGGGC CGCAGCGCG CTACACTGAC	480
	GGAGCCAGCG AGTTATACCT TGCCCGAGAG TCTGGTATCT GTGAAGTC	528

(2) INFORMATION FOR SEQ ID NO:266:

25

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 756 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1230RP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:266:

	GATCCCGGTA GGCGTCTGGC GGCATAATGT CTGCCGTATA GGTGGACTCT GGCTGTATTG	60
40	TCCGCAGGGG AATGGCATGC TTCTGTAGA AATACAACCG ATCATAGGGC GAGCTCATAT	120
	CCACCGTAGG TCGCTGGGAC ACGTACTTTT TGA CTGAGCC ATCATTCGCG CTGTTCAITG	180
	CGACTCTAAT CTGATTCAGA ACCCTGACCT CTAGTGCTAT AGCGCAGGGC GTACCTGTCT	240
45	GATGATGCGC TTTTCAATGC TCGAGCGTGC GCAGTGTAC ATCGATCGTC GCGGACGATG	300
	TTTAAGCAGG ATGCTGAGCT AATATGTATC GGTATAGGCT ATTGGCAGTA GACCTGGGTA	360
	TATACGCCTA GATATGGACA AGATGCTGCG CCTAGACATC CAGAACTTAA CCAGGCTCGG	420
50	GTAAAGCCA CCCAGATAAC ATTTGAACAT TAGAACAATT ACCACCGCA ATGGAGGGGA	480
	ACCCAGTCGA AACCCACGG CATCCAATAG TTTCCCCCAA CNGCGAAANG GCAGAATGCA	540
	CCGCCCCAATG CTGCCCCAAC GCCCACGGC ACCCTGACCC CATTGACCTN GAAGCCCTGG	600
55	GGCNAAGCTG CATTTTACCC CCCCCCATTN GGAAAAANTG ACCGAATAAA ANNCCCCCN	660

AAAAAANAAN GGCCNCCCCC AATTACTTTT TNNCCNNGGG CCCCNAACCC CNGGGCNAA 720
 AAAANNANTG GGGGGGGGTT TCCGNNTTT AAAAGG 756

(2) INFORMATION FOR SEQ ID NO:267:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 784 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1220UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:267:

GATCTTCCGC TCCACTTGGT TGGGCTGGCG CATGTCAAAG GTTAGTAAAA GCCCCGAATC 60
 GTGTACTGAC GCGAACTTGT TGGATCTTCC GGAAGAACAC AAGGACGTAT CCGCGCCCAA 120
 GGACCGGAAA TCATAGGTCTG GCATCCACTT TACATCAAGG ACGGAATCTG AGCCTGAATT 180
 GAAATTCAGG TCGCTGGCGT TCACCTTGTA AGAGTGCGAC CGCAAGTCCC ACACCTTGAT 240
 GCAGCCGTCC TGGCCACCGC TGATAAGGAG ATGCGTCTGG CCCATGTGTA AGTCCAGGCT 300
 GTTGATGAA CGCGAGTCTT CCGACAGGCT CCGTGATCAG CCGCGAATCC TTTGCCGAGC 360
 CCGCGTGTAT ATGTAGATG GAAACCGAGG TCGACGTCCC GCATATGGCG ATGTAATCTT 420
 TGTGGTGGTG GAACCCCGCC CTTGACGTCC CGAAATCCGT GCTAATCTTG CGCATGTTC 480
 CCGGCGCCAT GCTGCTGAA GAACTTGTTC CCGCCCGCC AAGGNTCCCC NGTTGTTCNT 540
 GTTATTCGGT GCACCTGCT GCTCCCTGTA CCTCCGTCN AACTTGTTC GCGCAAATGG 600
 TCTTCCCCCN CCCCCNCAAC CATGCCCTT ANCTTCTTTG ATTTTCTTCC AACCTGCCA 660
 CCCCCGGTTC CCTGGAGGGG GGGTACCCCC CCCAAAACCC CNGGCCCCCC CAATTINTCC 720
 ACGCCCNCCC GAATTTGGTT TNCCTNNGGG NCCCCNNGG GNCNNAAAA CCTCCCCTAA 780
 AGNA 784

(2) INFORMATION FOR SEQ ID NO:268:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 751 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1231RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:268:

GATCATCTGC GTGAAGGGCG ACAGAAGCCT GGCGATGGAA ACATTGGAAT TGATGCATTA 60
 ACOCAAACAC ATGGGTCAAT TCCTCAAAC CAACAGAAAG GGGACGAAGC TCGCACACA 120
 5 GTGCTGCAA ATCTTTAGCC GAGTTCTGAA AATTCAAAGT CGGTAGTTCT CGTATGTTGA 180
 AGCCAGATCC ATAAACTATC TTCTCACTCG CCGATGCAA AGTATCAAGG AATAGGCGAC 240
 AATCGGTAAT GATTGGCTCG AGCTCACGCA GATATTGGCG CACTTCTGAT ATCCGTGGGT 300
 10 TGTTCGATGC ATGATGCACA TGAATAAAAG GAAGAAGCTT CGAAAGAGGT ACACGGCCCG 360
 GGTAGCCGTG TGATGAGAGC TGTTAGTTTG GCTTCAACAT CAGCAAGTTT CTCTATAGGG 420
 GACGAGGGT CGTCAACATC ATTTATTAGA CACTCCAGC ATTTGTCTT GAAAAAAGT 480
 15 NGTGCATGNA CAATNGCNC CCCCCCTTTT GAAANGCGG AGAAAATTTC CCTTNAANAC 540
 NAATNCTING GTTNAANTGC TTNNAAANCC CCTTNAATTA AACCTTNNN GGCNCAAAAA 600
 AATTNITTAA ANCTTTTINA ACNCCCCGG AAACANAAC CCCCCCCCCA AAAAAAACA 660
 20 NGTTTINTCC NCCCCCCCCC CCCCCGANNI TTNNAAAACC TTNNAAAAT CCCCCCCCCC 720
 CNAAAAANCC CNNAATTTT TTTTTPAANC C 751

(2) INFORMATION FOR SEQ ID NO:269:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 762 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1231UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:269:

GATCGTCAGC GTGCATGAC TTGGCATTGC AAAGGATGT GATCCCTGAG GGGAGGCTTG 60
 CAGCAGGGCG GCTCCTTGTT TCACATCATA GGCTGTGAG GCGGACTGA TTCAGCTCTC 120
 40 AAGGCGAGCA CCTTCCAAC GCCCAATAGG GCGCCCTCC TGGGCTGTGC ACGGAATAC 180
 CTCAGACACT GCGTTAAGAT ATATGTATTT AAGAGGGCAC CAGCTGGCTA TCAATTGCCC 240
 45 TCTCTGCTCT GTTCCAACA CCAGGCAAGT ATCATGATGT CTGCTGCAGG AAAAATGTTT 300
 AAGAACAACG GCCAGAAGGA TGAGCGGAG AATGGGGCC AGAGAGAGGA GCGCCAGTAC 360
 AGGGTGGGG ATGAGCAGGG CTTGGGCGC CAACAGCAGG CTGACTTGGG CCCCCAGTA 420
 CCAGCAGGG CCACGCTGC AGCAGTTCGA CGACACTTGG NGCTTCCNA CATTTGGGCC 480
 50 CCCCACCAAT TGGGNCOCNA GCAAAATNGG CCCCNCCCT TTATTTTNG GGGCGAATGG 540
 GGCNAACTT ATCCCAANT TNGGGNAAC TCCCCCCCA GNANGAGAAC NCATTTTTC 600
 55 ATTGGAAAAC NCACCTTNN TTTGNNAAC CCCCCCCNA AAAGCCANG GACTGTINTT 660

TTTNGAAAAC GNCOCCTTT NTGTGNCNN ANAAATTTT CTANAATTG CGNGGATTCC 720
 TCCCTTGGGG CCATTCCNTT TTTACCCTTT TAACCCCCC CC 762

(2) INFORMATION FOR SEQ ID NO:270:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 746 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1232RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:270:

GATCTTATTA ATGAATTTT CCCCACGAAG CTGTGCGAAT TTTGATTCTA TGCTTTGCAA 60
 GCACTCAACT TGGGCTGTGG TCATGCGAAA CTAACACGCC GCGAAACAGA TACTGCCCCA 120
 GCGTTAGCAC TGCTCTTTG CGGTGCTACA AACAAAGTGT GAGCATTAGC GTGTGACTTA 180
 TTTAGGGTTG GAATATACAA AAGTAAGGCG TACATGCGA TATCTCTCTT GTGTGCTCT 240
 CTCTTACCTA CATCTAGATG TATTCAGGGA ACTTCCCCGC GAGATTCACG GCCAAGGCCG 300
 TCCAGCCCGT AAAGTGCTGC ACCCGTTGAC CTTTCCATCG TTCTGGTTGT ATTGTTGGGT 360
 AACAAAAACC ACCTTTCCCC AAANTCNAAT AATTGNITCA ACAGGTTGTT CCCCCATTG 420
 AAAGGATAN NGTTTAAAC CCGGNCNAAA CAANNAANGG GNINGTTTTT TTGGGCANAA 480
 ACCCCCCCCC NAATTNAACC GCGTGGGGCC CTNCNCAAAA TTNTTTTTTT CCCCCNTGG 540
 GGNCCCCNCC NAANAACCC CGNINGTINNA ATATATCCCN CTTTINCCAG AAGNGANTCC 600
 CCCNNAACCC GNGNGATNT TTTTGTGNTT TAAAAANNCC CCCCCCCCCC CCNGGGAGGG 660
 NNTTCNCNC CCCANCATT NNACCNAGGN GAGTTTTTTT TCCTCCCCG GGGAAAAAAC 720
 ANTGTNNIT TTNNNCCNA AAAAAA 746

(2) INFORMATION FOR SEQ ID NO:271:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 777 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1232UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:271:

GATCAGTTTG CCGTAATTGA TACAAAAGGC AACTGGTCCG TGGGCGACGT TGGAGGAGT 60
 AAAAAGAAGT CCCGGGACT GCGCTTGTTA AGGAAGTTTA GGGGACTAT TTTTGACCCA 120
 5 GAGGAGTACT CCAATTGGAA TATGATAGAA TGSTACATA TTCACACAAG ATTGCTTTGTG 180
 ATGAATAGGT CAACTTTTCAT GGAAATTGAC TTTGTAGACG GATGGCAGCA GGAAATTGTC 240
 CAAGCAAAGA CGTGGTCTAA CTGCGCGAT TTTAAACGCC TTTCCGATGA GAGCAGTGTC 300
 10 CTACTCACCCT GCAAAGAGAT TATATTCTTA GACCACAAGC AGCAGGGAAC AAAGAGGGCG 360
 CTATCCTGGA AACACAATTG GGATAGCAAA GATTCACTTC TAAAGCTTGC TATACACATT 420
 TGTGGCAGCC ATATGAAACA ATATTTACAT GCATTCTTAT TTCCACCATG ACTCCCTGCA 480
 15 GTGCTTATGT GTCCTTCTTC CCGGTCCGAA AACACTTTTC ATTTTTCAG CCATCCCCC 540
 GCTGNTGTT TTTTNCATT TACACNCCG NTTTTACCGA AATTACCTCC CCNTGTCNC 600
 NAGAAACCGA GTTTNANAGA ACCACACCCC CTTTCATTTC CCTANNITG CCGCCCCC 660
 20 CCAGGGGAG AGTTTGGGN CCCCNTTTT NTCNACCATN TTNCCCNCC CCNCNAGGT 720
 TCCCCACNT AAAANCCCTG AAACCCCTTT TCCCCCCCAC ATTTTNGGTN GGGATN 777

(2) INFORMATION FOR SEQ ID NO:272:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 734 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1233RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:272:

GATCACAGTG CTGTGGGCAT TGCTGCTGT CTGTCTCTTG TGCCCCCAA GGGCCGAAGT 60
 40 AGACAAGCTG CCAGCAAGCA CTGATTGGTA CAGGAGCTTT TTGTTCAAGT TCTTAAGCAG 120
 GTTGGCGGTC GAGTCGGGT TGTTCAAAAC AGGGCCCGGC TGCACGCTCG AGCTGACTC 180
 CCCCCCGGC GACGACCGG TGAATACAC CTCGTATCC GGGTGGCAT CCTGCTCT 240
 CGCAGTCCCC CCGAAGCAA AAAATTCCTC CACGGATGTA TTCCCGTGGT TGCCAGCTG 300
 45 CGCACCGGC GTACCCGAG CGCTGTTGAC ATTGGAGTG ATATTCTCCA TCAGCAGCTG 360
 CGAGCTGATG CCCCCTCGG CCCTGTCTT GCTCCATCT GTAACGCTGT CAGACCCGA 420
 50 GTTTGTCTT GTGTCACG AACGAGAGT TCAACCATGT GACGACGAG GCGGTTTGG 480
 CCTTCACCAC CNATTTGGG CCTTCTGCT GGAACNCAA CCGGGGAAT TTCCCAACT 540
 NTGATTCCCN AANTGCCCC CCNCNTCC AAATTANAAT CCCCAATTGN GNTTGAAATN 600
 55 GNCNAAATNA AACCCNTTT TCCCTTNVN CNNNCCCG GCCCAANGA GCGNTGGG 660

GTTTAAANNC CCNACCCCC AAANITATAC CTTTTTTTTTG NNCCCNCCCC CCNCCCTINT 720
TTTTTTNCCC NTCN 734

(2) INFORMATION FOR SEQ ID NO:273:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 761 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1233UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:273:

GATCCAGCTT CCATATAAGC TCGTGTTTGC GGTGCGGACC TCTACAGAAG TGGTGATATA 60
TGATACTGTT ACCACGAAAC CCATTGCAGT GGTGGGAAAT TTGCATTACA CCCCCTAAC 120
GGACCTCAGC TGGTCTGACA GCGGCCACCT ACTCGTGTG TCATCAACAG ACGGTTTCTG 180
CTCCTATATC TCAATGGAGG ACAGCCTATT TGGCGAGCCA TACAGTTCCG AGGCACAGCG 240
GACCGATTCT CTCATACCTT CCACTCCAAA AAGCAACATC TTCAGGAACA CCTGCGGTC 300
CAACCCGGTC AACGTAAAGC GGAAGCACTC TGTAGGCGGC CACAACGACT CACCCATAAA 360
GCGCGCTGCC AAAAAATGTC GCGCTTTCC CTTGTGGTGG TCGATGAGGG ATCTGCGGCG 420
GCACACAACC GCTACTCCT AGCAAAGATC TCAAGCCTCC GAAGGCGCAT CCAACCCGTC 480
CTTGTTTAAT GACAACAACG GCGGCACCTA GTATCCCCNC ACGCCATCCT ANAAGTTTG 540
ATTCCNNTAT ACTNAAATAC AAACCCGANA ANCNNTTTTC TTGTTNACAA ACTTTTTTTT 600
GACCTGCATC AACTATCCC GGNNGGTCA TTCTTCCGA ATGCCCCCTC CCCCTTANAA 660
CNCCNTEACN TAAACCTTCC CNCTCCATA TTACTCATG AATCNNGCG AANTCNCTGC 720
GGATCNCCA NCTTTTGGGT AGINITCCCC TTTTGTTC C 761

(2) INFORMATION FOR SEQ ID NO:274:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 728 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1234RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:274:

GATCACAGTG CTGTGGGCAT TGCTGCTCGT CGTCTCTTTG TGCCCCCTCAA GCGGCGAAGT 60

AGACAAGCTG CCAGCAAGCA CTGATTGGTA CAGGAGCTTT TTGTTCAAGT TCTTAAGCAG 120
 GTTGGCGGTC GAGTCCCGCT TGTTCAAAAC AGCGCCCGGC TGCACGCTCG AGCTCGACTC 180
 5 CCCC GCCCGC GACGACGCGG TCGAATACAC CTCTGATCCC GGGTCGGCAT CCTTCGCTCT 240
 CGCAGTCCCC CCGGAAGCAA AAAATTCTTC CACGGATGTA TTCCCGTGGT TGCCCAAGCTG 300
 CGCACCGGGC GTACCCCGCAG CGCTGTGTGAC ATTGGACGTG ATATTCTCCA TCAGCAGCTG 360
 10 CGAGCTGATG CCCCCTCGGG CGCTGTCTTT GCTGGCATCC TGTAAAGTCC TCAGACCGGA 420
 GTTTTTGTTC TGTGGTCCC ACGAACGGAG ACGTCCAACC ATGTGTACAA CAAGNCGTTT 480
 TTGGCCTTCA CACCCATTTC CACTTTTCTG GTNGAACGCC AACCCCGGAT TTCNCAACNG 540
 15 GNATTTCCNT ATNGCCCGCC CCCCNCNNNA AATANAACCC CAATGTNGNN TGAAANGGNA 600
 NAAAANAACC CCTTTTCCC CTTTTTCAA CCCCCGCCN AAAGGCCNNT GNGTGNNTAA 660
 ANCCCCCCCC CCAATTATA TCCTTTTAA TTGCCCAACC CCCCACCTT TTTTNTTC 720
 20 CTNNNNN 728

(2) INFORMATION FOR SEQ ID NO:275:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 782 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1234UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:275:

GATCCAGCTT CCATATAAGC TGTGTTTGC GGTGCGGACC TCTACAGAAG TGGTGATATA 60
 TGATACTGTT ACCACGAAAC CCAITGCACT GGTGGGAAAT TTGCATTACA CCCCCTAAC 120
 40 GGACCTCAGC TGGTCTGACA GGGCCACCT ACTCGTCGTG TCATCAACAG ACGGTTTCTG 180
 CTCTATATC TCAATGGAGG ACAGCCTATT TGGCGAGCCA TACAGTTCCG AGGCACAGCG 240
 GACGGATTCT CTCATACCTT CGACTCCAAA AAGCAACATC TTCAGGAACA CCTGCGGTC 300
 45 CAACCCGGTC AACGTAAAGC GGAAGCACTC TGTAGGCGGC CACAACGACT CACCCATAAA 360
 GCGCGCTGCC AAAAAAGTGC GCGCTTTCC CCGTGGTGG TCAANAAGGN ATTGGGGCCC 420
 GGACCACNAA CCGCTACTCC TTANCAAAAA ATTTTTCAAA NCCCCCAAAG GGGGTCCCAA 480
 50 CCGNCCCTT GTTTTTTTGA AAAAAAANG GGGNCCCTCA TTTTTCNCCC CCCCCCNCC 540
 CCAAAATTTT GGGGATCCCN NNNCCNAAAA AACCAACCCC AAAANCCCTT TTCCGGITAN 600
 NAAANNTTNN CNNTGACCC CCCCCCCCC TTCCGGGNGG TCATTNTTNC NAATNGCTCC 660
 55 NCCCCCTTNA AAGNCCCN CNAAAAANEN CCCCCCCCC NTTTTTCGCC NNNAACCCOC 720

GGGAAAATTC CCNCGGGAN NNNCNANITTT TTCTTGGTCT CCCCCTNITTT NTTCOCTTNA 780

GG 782

(2) INFORMATION FOR SEQ ID NO:276:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 747 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1235RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:276:

GATCCTTGAG AAGCCAGATA ACGACGAGGA CGAGGAGCC AGTGACGATG AGGATGCCGA	60
CGACTACGAC TCGGATTCTC CCCGGCCCGG CGACAGCGGC AGCGAACTCA GAGACCTCC	120
TGCGCGGGCG ACATTGGCTA CGGAAGTGA CGGATCCAGC GTCTTGGCCT CCCCCTTGAC	180
CTATTCTTGG CGCTCGTCA TGCTCCACTA TGGCACACAC AACTACGGAC ACTACATTGC	240
CTTCGCAAG TTCCGTGGTG TGTGGTGGCG CATCAGCGAC GAAACAGCGT ACATCTTGA	300
TGAAGCTGAG GTCTTGTTCA CACCGGGCGT TTTCATGTTG TTCTACGATA TGAATATGAC	360
GAGCGACCG GCGAGTTGG TGACGACTTG GCTGCCTAC AGGAGCCAG TCCGTCTGT	420
CAGATGGGGA CGGAAGAATA CGACTCATTTG ACCGGGTCCA CCAAGACCTC GATTCAACGA	480
NCCAGCTGTT GCTCCCGCCA ATAACTTTG TTGGGGCTG GCGGGCATA TNINCTCCAT	540
GCATGTTTAT GCCCCACCG GACATGTTTG ATCCANATAC TTTTGTGTTN GTINCCCCCT	600
TTCAAGNNTT CCCCNAAGC AAGATTCTTA NNTACTTGC CTNGTGTTC CCNCTGGTT	660
TGGAACCCCA AATTCTNITT NNCCNTTNTT GGGCCANCC NNGGNAAACC CNCCCTTTTT	720
TTTCAAACCA GNTTNCCT TTINGCN	747

(2) INFORMATION FOR SEQ ID NO:277:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 776 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1235UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:277:

GATCACACCC GTGTTCTTTT CAAAGGTGAC CTGCAACTTC TTGTTATTCA AGATGATAGT 60
 CTCACGTGTC TTTGACAGGC TAGCAGGGTA AAATACCGAC TCCTGCGCGT CAGCGTTTTC 120
 5 TGCAGCCATG TTATCCCATT GCAAGGTGCC TATTGGGACC AAACTTTCCC CTCTGTGTGT 180
 CAAGGCTCC AAAGCTCTCT CTATGAACCG ATCTGCTAGC TGCACGACCT TGTTAAGCAT 240
 TGGTATTGCT TCATATTGTG ATACCATTTT TATACATGTC CCGGAAGGA CATCGTGGAA 300
 10 CTGGCATAAC AAGATATCTT CCCATAGAGC GTTAATATCA TTAACAGGGT ACGTGTACTT 360
 GTTAGCGCT AGTAGOGAAA CCTTTGTGGC AATCCACTCC AAATCATGGA TCTTAACCTC 420
 AGATAGTCTC ATCAACCGTT TAAGCTCTGC CTGTGTGTA TACGTGCTC CTATGGAAAT 480
 15 CAAAGTTACA ATCCGCCCAT CCAAGTTGGC CAATGNGTTC CCANTGTCTG NCTTNGCAT 540
 AATATCACCG TAAAAACCGT TTANGGAATC CCNACCCCC NACCTTNGG AANAACATTG 600
 CATTCGCGGT TAAAAITGAA CGANACCCC CCATTTGTTC CACCNCCCC TGTTTGAACC 660
 20 CCNCCCCGN CNOCGNACC NNAAAAAA CCGTTGCCNA ANGTCATTN AAAGTTTGT 720
 TCCCCCGGG TTTAAANCC NAATTTINAN AAGGTTCTT TTCCCGGGG GGGTIG 776

(2) INFORMATION FOR SEQ ID NO:278:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1236RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:278:

GATCTCCCTC CCGTGAAGT ACGTGAAGT TTTGAGACTC TGCAGGTGCT CTTTGTATAG 60
 CTTCGATGCC TTAGCTCCCA TGCTACTAT AACGCTGTC CCGGCTCAG CTATGTGGG 120
 40 GCTGCTATC TTAGTCTTA ACTCTTGAA GGTGAGAGG CCATAAGCCA CGATCGGGA 180
 GCTGCTCAA TTATGTCTC TGAAAGCGT GTGTGGTCC ACTTTCCAG ACCCAAGGT 240
 ATGCCGGTTA CCTGACCTC GTTCCGATG TGACGCTGG AGCGGTGG ATGCCGGCC 300
 45 TCATGGCTGT CCGTGGGA GGACTATCTA CCAGGACTT GGCTGCTGC GCAATTGCA 360
 CTGCAGCTT CAGTGGAGT CTGGGGAAG CTCACGGCA GCGCAGGCA GTTACAGCA 420
 TGGCAGGC CAAGCCCCG GAGTTGACG GAGTTGGTT CCAGATATTG GCGGTCCAA 480
 50 ATTCTGANTA GCCCTTTATA TNAGANCCCC NCGTTGAAC CCCAAGTTT TTTATGGGA 540
 TGGTTGAAT TNGCCCCCT GCGTTAACC CCCCCAACC CCTNCCCCG GCAAAANCA 600
 55 ATCTNCCCC NGTTNAAAA ANCCGAACN NNAATTTT AAAAGAGACA AATCANINCA 660

CCCGNGAAAA AGAGCCCTNT CTTTGTAGAA TTCCCGGGG GGGGNGTAAA TTNAACCTTT 720
GA 722

(2) INFORMATION FOR SEQ ID NO:279:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 789 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1236UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:279:

GATCTTCGTC CGCTTCGGT CAGGAAATTC AAGCGGGATG AGCTCTGTGT TCAGTTTACC 60
ATAAAGAGC TGTTTTACAA GGTGGAATTG CTGCGCTCTT TCATCCAAGC TGAGCGGGAC 120
GGACGCACTC TCAATTTGGT AGAGGACGTT CCCAATGCAT TCCGTACAT CTTGCTGTCT 180
GCCAATCTCC AATGTGTTTT CTAGCTGGTC GGAATAATT TTAGCAACAT AGGTGGAAGT 240
TTCAGGGCCT TCGGCTCTG GACTCCGAC CATGGTGATA TCTTTACCTG AGTCATCATT 300
CTCAACAGCC TGCTATCCT CAAGCGGACC TGCGCTGGTG TTTTCACCCN TTGGGNGGNN 360
GAANTCCAAT ANNCCCTTT TCTGGGGTTC TTGAAAGNA TTGGANAAT TTNNTGGCCC 420
GGTINTTACC NITTTINGANA GAGACCTTG GNTNTCNAN AOCNAAATNN TCCCNNGGG 480
CNCCCGNCG AATNTTTTIN TITCCAAANT TTCCNAAANN CANTTTTNT GCITTTTCCC 540
NITTINGNGG NAGCGCCCA GGGGNGCCC CGAANTAATC NGGGGNTGG AAAAAAATAA 600
NAATTTCCCA NAGGGTNTT TMTTTTCCN TCNGAGAAGG GNGGTTANAA AAACCCATTT 660
TTTCCCCCN NTAGANAACC CTTTTCNCC CGGGGNTCC NGCCGGGGG ATINTTNGG 720
GNGNTTGN NACCTCCTT CCCCCTATA NAAATNCCC CGGGGGGGG TTINNTTTTC 780
CCCNNAAN 789

(2) INFORMATION FOR SEQ ID NO:280:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 676 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1237RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:280:

GATCCGGGTT GAAGACATTG TCAGGTGGG AGTTTGGCTG GGGCGGCACA TCTGTAAAC 60
 GATAACGCAG ATGTCTAAG GGGGACTCAT GGAGAACAGA AATCTCCAGT AGAACAAAAG 120
 5 GGTAAAAGTC CCGTTGATTT TGATTTTCAG TGTGAATACA AACCATGAAA GTGTGGCCTA 180
 TCGATCCCTT AGTTCCTCGG AGTTTGAGGC TAGAGGTGCC AGAAAAGTTA CCACAGGGAT 240
 AACTGGCTTG TGGCAGTCAA GCGTTCATAG CGACATGCT TTTTGATTCT TCGATGTGG 300
 10 CTCTTCTAT CATAACGAAG CAGAATTCGG TAAGCGTTGG ATTGTTCACC CACTAATAGG 360
 GAACGTTGAG CTGGGTTTAG ACCGTCCGTG AGACAGGTTA GTTTTACCTT ACTGATGAAT 420
 GTTATCGCAA TAGTAATTGA ACTTAGTAGG AGAGGAACAG TTCAITOGGA TAATTGGTTT 480
 15 TTGGCGCTGT CCGACCGGGC ATTGCGCGGA ACTACCATCC GCTGGATTAT GGCTGAACGC 540
 CTCTAAGTCA GAATCCATGC TAGAACCGGA TGATTCTTTT CTGCACATT ATAGATGATA 600
 CGAATAGTTG CTTTTCATCAT CGCTGAACCA TACAGCCGCA CTGTGTTCOA CGAAGTCTGG 660
 20 CCCITCCGCG ATTGCA 676

(2) INFORMATION FOR SEQ ID NO:281:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1237UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:281:

GATCCCGTAC ACGAAGAAAA TCGGACGGC CAACCAAACC CAAAGTTCAA CTACGAGCTT 60
 TTAACTGCA ACAACTTTAA TATACGCTAT TGGAGCTGGA ATTACCGGG CTGCTGGCAC 120
 40 CAGACTTGCC CTCCAATTGT TCCTCGTTAA GGTATTTTACA TTGTACTCAT TCCAATTACA 180
 AGACCCGTAT GGGCCCTGTA TCGTTATTTA TTGTCACTAC CTCCTGAAT TAGGATTGGG 240
 TAATTTGGC GCTGCTGCC TTCTTGGAT GTGGTAGCG TTTCTCAGGC TCCCTCTCCG 300
 45 GAATCGAACC CTTATTCCCC GTTACCCGTT GAAACCATGG TAGGCCACTA TCCTACCATC 360
 GAAAGTTGAT AGGCAGAAA TTTGAATGAA CCATGCCAG CACAAGGCCA TGGGATTCCG 420
 AAAAGTTATT ATGAATCATC AAAGAGTCCG AAGACATTGA TTTTATCT AATAAATACA 480
 50 TCTCTTCCAA AAGTCGAGAT TTTAAGCATG TATTAGCTCT AGAATTACCA CAGATATCCA 540
 TGTTAGTTAA AGAACTATCA AATAAAGAT AACTGATTTA TGAGCCATTC CGCAGTTTCA 600
 CTGTATAAAT TGCTTATACT TAGACATGCA TGCTTATCTT TGAGACCAGC ATATGACTAC 660
 55 TGGCAGATTC AACGAGATAC TATCTTTAAG ACACCCGAAA TGCGCAACA 709

(2) INFORMATION FOR SEQ ID NO:282:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 820 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1238RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:282:

GATCACGGCA ATGAAAACT ACGCAAACGT TACAGACTTT GAGTGGTACA TCGCCCTGCT 60
 TTGGGATCTC TGCATAGTCT CCCAGGACCT GCAAGACAAG ACCCTCGGCG AGAAACTGGG 120
 TGAGCAAATT AGAAACATCA TGGTGAAGGT TCCTGACCTG CCGGATCGCA CTTTGGGGCA 180
 GATTGTGCAG CTGGTGAAGA GCGAGGACAT CACGGCCCGG CTGCCCCGTG TTCTGAAGGA 240
 GTGCATCTGG TGCTGGGCG AGTATTCGTC GTTGCTGAC AATAAGGATG AGTATATTCT 300
 GCTATTGGCA GAAAATTGCA AATTATATGA GCCTGAACTA CAGCAAACCTT TGATCCCTGC 360
 CATTTTGAAG ATTTATAGCA ATTGGTGTA CGAGTCGGTG GTGACACGG GTCCGTATTA 420
 AATGGGTTC CGAGCGGATA ATCACCCCAC TAGAAGATCT AATAATCTCG AAGAACTTCG 480
 AAGTCCAGGA GGGTCTTCC GAGGCTCTCG AATTCTACCC TTNTTCTCG ACNCCCCCTC 540
 CNAAATNNTC TGNATCCCTA NNGCTGGCA NCTTACNAAT TCCTNGCCCA NTTCTNCAAC 600
 CCTTTGAATT NACCNCNNVN CCNTCGGGCC CCCAAAAAC TNNNNNAAA CTNTNTTTCN 660
 ATGGGAACCC CCTTNNCCN AAANGAAGCC ANANNNNACC GNAAAACN CN TTGAAGNGA 720
 TTTCCCGGAG TTTTGANAAC ATTTNNCCN AATTTTCCG GACGGCCAAA AAGGGTTTTN 780
 CAAATTANIT CGGGGGGGGA AGGGGAANGG GGGGGNNA 820

(2) INFORMATION FOR SEQ ID NO:283:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 875 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1238UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:283:

GATCAGAAAC GGCCGCTGC AAGAATGGAT GCGATGAGC TTCAGCAGT TGAGGCATCG 60

CTTATGCAAA AAAAGAAATT CCTCAGATCA CGTGACAAAG TTTCGTGATC TCTAAATGTC 120
 GACGGTTGGG CGAAATGTGC CGTCTCTGCG TATAAAATAT AACTAGTTT CTCTACCACT 180
 5 AGACTGATTG GGAATATCTA AGCTTTCCTT TGATAGCAGC AGGACCACTT CATAATCCAG 240
 TACCTTCTTT GCCTTATCCA CACTAGTCAT CTCATOGAAA ATGTCACAGC CAGTGCAGAG 300
 AGCCGCCGCT CAATCCTTGA TATCCAAATA TGTCAATAAG GAAACGCTAA AATACATGCT 360
 10 TACAAAGCAC TTCTGGGGCC CGGTATOGAA CTTTGGTATT CCGATTGCTG CGATTATGA 420
 CTTGAAGAAG GACCTTGAGT TGATTTCGGG CCCCATGACG TTGGCGCTCG TGGTATCTC 480
 AGGTATTTTC ATGCGTTACT CGATGCCGT CACTCCAAG AACTACCTCT TGTTTGGGTG 540
 15 CCCACTTTAT AAACGAGTCC CGCGCACTC CGACAGCGTT CCGCTGGCT CAAGTTTCAA 600
 TTACTTGGC GAGAGCCCTG CTGTCAAGGC ACCGAGAGA CCGCATAGG TGGTTTGGG 660
 TCCGCACAG TTGCATTACA GGTGCAACA CTACATAGAA TATTATTAAG CCGACTATCC 720
 20 TACACGTTTC TAGAGCTAGT CGAGATGCTT TTGGCTGATA CTGCTGGTT GGGCCAGGC 780
 GTATCTTGT CCTCTGGCT TTGCTGGTT GGCAGCTCC CATTGNCOG TTGNCATNN 840
 TCTGTGTCC CGTATCCATT GNTAAATGT CTCC 875
 25

(2) INFORMATION FOR SEQ ID NO:284:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1239RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:284:

40 GATCAACTTA GAAGTGGTAC GGACAAGGGG AATCTGACTG TCTAATTAAA ACATAGCATT 60
 GCGATGGTCA GAAAGTGATG TTGACGCAAT GTGATTTCG CCCAGTGCTC TGAATGTCAA 120
 AGTGAAGAAA TTCAACCAAG CGCGGGTAAA CGCGGGGAGT AACTATGACT CTCTTAAGGT 180
 45 AGCCAAATGC CTGTCATCT AATTAGTGAC GCGCATGAAT GGATTAAOGA GATTCCCACT 240
 GTCCCTATCT ACTATCTAGC GAAACACAG CCAAGGGAAC GGGCTTGGCA GAATCAGCG 300
 GGAAAGAAGA CCTGTGTGAG CTTGACTCTA GTTTGACATT GTGAAGAGAC ATAGAGGGTG 360
 50 TAGAATAAGT GGGAGCTTCG GCGCCAGTGA AATACCACTA CCTTTATAGT TTCTTTACTT 420
 ATTCAATTAA GCGAGCTCG AATTCAATTT CCACCTTCTA GCATTAAAG TCCTATACGG 480
 GCTGATCCCG GTTGAAGACA TTGTCAGGTG GGGAGTTTGG CTGGGGCCGC ACATCTGTTA 540
 55 AACGATAACG CAGATGTCTT AAGGGGACT CCATGGAGAA CAGAATCTCC CAGTAGAACA 600

AAGGGTAAAG TCCCTTGAT TTGATTTGAG TGTGAATACA ACCATGAAGT GTGGCCTATC 660
 GATCCTTAGT TCCTCGAGTT TGAGCTAGAG TGCCAGAAAT TACACAGGAT ACTGCT 716

(2) INFORMATION FOR SEQ ID NO:285:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 793 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1239UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:285:

GATCATCTTC GATCCCCTAA CTTCGTTCT TGATTATGA AAAAGTCCTT GGCAAATGCT 60
 TTCGCAGTAG TTAGTCTTCA ATAAATCCAA GAATTTACAC TCTGACAATT GAATACTGAT 120
 GCCCCGACC GTCCTATTTA ATCATTACGA TGGTCTAGA AACCAACAAA ATAGAACCAA 180
 ACGTCTATT CCATTATTCC ATGCTAATAT ATTGAGCTT GGGCTGCTT TGAACACTCT 240
 AATTTTTTCA AAGTAAAAGT CCTGGTTCCG CTAGAGTACA AGTACCTAG GTTAGCCAGA 300
 AGGAAAGGTT CGGTTGGATC CGGTACACGA AGAAATCGG ACGGGCCAAC CAAACCCAAA 360
 GTTCAACTAC GAGCTTTTTA ACTGCAACAA CTTAAATATA CGCTATTGGA GCTGGAATTA 420
 CCGCGCTOC TGCCACCAGA CTTCGCCCTC AATGTGTCCT CGTTAAGGTA TTTACATTGT 480
 ACTCATTTCA ATTACAAGAC CGGTATGGGC CCTGTATCGT TATTTATTGT CACTACCTCC 540
 CTGAATTAGG ATTGGGTAAT TTGCGCGCCT GCTGCCCTCC TTGGATGTGG TAGCGTTTTC 600
 TCAGGCTCCC TCTCCGAAT CGAACCCTTA TCCCGGTAC CGTTGAACC ATGGTAGCCA 660
 CTATCCTACC ATCGAAAGTT GATAGGGCAG AAATTTGAAT GAACCATCGC CAGCACAAGG 720
 CCATGCGATC CGAAAGTTTA TATGAATCAT CAGAGTCGA GAACTTGATT TTTATCNATA 780
 ATNCNCTCTC CAA 793

(2) INFORMATION FOR SEQ ID NO:286:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 836 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1240RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:286:

GATCTTAAAA TAAGATAGAA TGGTAATAAA TATCATTCAG GTACAATAGA TGCTGGTGTT 60
 ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTUCTA AAGTATTAGG TGAAAAGAAT 120
 5 ACAAATAATG AAAAGAAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA 180
 TAACCATGCA TTGGTAATCT ATCTAAATTA CCTGTAATAC CTAATGGATT TGATGAACCA 240
 TGTACATGTA ATAGCATTAA ATGCATAATT ACTATTGCTG CAATAATAAA TGGTACTAAA 300
 10 TAATGAAATA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TOCTCATAAT 360
 CATAGTACAA TATCATTTCC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA 420
 GCACCTCAAT GTGACATTTG TCCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA 480
 15 GTTAAATATA AGATAATAAC ACCAACTGTT CCATACAATA ACTCTAGGTG ATTTATAAGA 540
 ACCATAATAT AAACCTTTAC CAATATGAAT ATACATACAA ATAAAGAAGA ATGAAGCACC 600
 ATTAAGAATG CATATATCTA ATTATCCACC TATTGTACTC TCTCANAATA GTTCTTACCT 660
 20 GATGANAAGC TATCCATATT ANAAGAATAT GCATACCTTA AAAATACCGT TANAATTGAA 720
 TACTAACATA ACCTATAANA CCNAATTCAC CATAATAATG AGAGGGTGAG GNGAACCATA 780
 CNTACNATAC TAATTTAATT ATTGATTTCT TTCCCNTTTT ATTATTAAAT TTAAAT 836

(2) INFORMATION FOR SEQ ID NO:287:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 860 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1240UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:287:

GATCTAGAAT TATTAGTCA ACTATTAACT AATACTTATA ATAATAATGG TTTATCATT 60
 AAATCATTAA AGATAATTAT TAATAAATTA CCATTTAATA ATGATATATT ATTATCAAAA 120
 AATTATGTTA ATAAAATAAA TAAATATAAT TTAATAATTA ATAATAATTT AAATAATAAT 180
 45 AAAAAAGATT TAATTAATTT ATATACTTTA GATAATAAAT TATTAGATTT AAGTATCTTT 240
 AATAATATAT TATTAGGTAA ATATTTAGTA GGTAGTAATA TCCAATTAAA GGTAGACTA 300
 TTAAATAGAA ATATTACTAG ACTAATAAAA ATAAATATTA TGAAGGTAC ATTTAATAAT 360
 TATATATATC AATGAGTAA ATTAAATAAT TTATATAAAT TAAATTATAT ATCATTAAAT 420
 ATTAATAAAC TTAATAATCT ATTTATTAAT AAAAATGGTA TATTTAATAT TAAAATTAAA 480
 TTAATACTA TTAATAAAT ATCTATAAGT AATTCTTTAT TTATTTTATA ACATTTTAAA 540
 55 ATGTTTTATG TTAAATAGA TAATAACAAT TAAATAATAA AAATTAGAT GCCACAAATA 600

TTCCCATTTT CCTTATGAA TCAATTACTT ATGGTTTCCT ATTATTTTCTA CTATTTTATC 660
 CITCTATCTT ATGTTTTTTA CCTAAGAATT TAANAATATA TACTCCTAAA TATATATTCC 720
 5 NAAATTATAA TAGTTATTAA ATTTTAATTA ATCCANTATG ATCCTATTT ATAAATATAT 780
 AAGAAATTTT TAATATATAT ATATGAATNI TATATCNCN TGAACCATTG NAATNNATTA 840
 TAGTTTACAC CCCCTANATC 860

(2) INFORMATION FOR SEQ ID NO:288:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 837 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1241RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:288:

GATCTAAATA TATATAATTT AATTATATAA GATTAATATA AACTTTTTTA TTATAATAIT 60
 TAAGTATTAA ATTATTTTAA CTATTATTAT CATTTATTAA TAAATTAAIT ATTIGATTAT 120
 TAATACTTAT TATATAATTA TTATATAAIT TACTTAATTC ATCATTATTA ATATTATAT 180
 30 AATTATAAAA ATAATATTTA ATATGAATAC TATTTAGTCT ATGTTCAAAT TTAAATTTAG 240
 TTATTAAAAT ATTATTAGAT ATTATTATTT TCTTTAATAA ATTATTAAAT AGATTATCAA 300
 TAATTAATAT ATTATTTATT AATTGTTTAT TAAAATAATA TATTTTATTA TTATAAGAT 360
 35 TTAATTTATT TAAATATTGT AAATTATTAT TTTTATTATA ATATCTATTT TTATAAATAT 420
 TATGTTGATT TATATTATTT AATCTTTTTA TAAGAATTAT TATTAAAATT AATTTTAACT 480
 TTAATTTCTT ATTATTAATT TTTATATTAT TTAATAAATT ATATTTCAIT TTATTATTT 540
 40 ATTTATTTAA TTAAATTAAT TATTTAATTA ATATTTTATC ATTATTTAAT TAATTAATAA 600
 AATATTATAA AGAATGTAGT TAAAATACT TATAAAAGGA TCCGAACCTA TATTATTGTT 660
 TATGAGACAA ATCCTTTTAC CCATAAGCTA TATAGTTTGA CTATCATTTG AGANITGGGT 720
 45 NNNCCCCCTA TGCTNNCATC CTGVTGTCCT CNCTAAANGA ATTTNTTNT TNANANATGA 780
 AAAANITATT TATCAAAGAA TTATAATTTT TTAANAAGGG GNANAAGGAA AGACCCG 837

(2) INFORMATION FOR SEQ ID NO:289:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1241UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:289:

	GATCTGTATA CTAGAGCTTA TTTTACTTCA GCTACTATAA TTATCTTTAT TCCTACTAGT	60
10	ATTAAAGTAT TTAGTTGATT ACTAACTATT TATGGTGGTT CATTAAGATT ACTAACACCA	120
	ATATTATATC TATTATCATT TTTATTTTAA TTTACTGTAG GTGGTTTAACT TGGTGTAGTA	180
	TTAGCTAATC TATCATTAGA TGTAGCATTG CATGATACTT ATTATGTAGT ACTACATTTC	240
15	CATTATGTAT TAAGTTTAGG TGCTGTATTC TCTATGTTTG CTGGTTATTA TTATTGAAGT	300
	CCTCTTGTTF TAGGTTTAA TTTATAATGAA AAATTATCAC AAATTC AATT CTGATTAAAT	360
	TTCTTAGGTC TTAATATTAT TTCTTCCT ATGCATTTCT TAGGTATTAA TGGTATACCA	420
20	AGAAGAATTC CTGATTATCC TGATCTATTC CTAGGTTGAA ATTTAGTATC TTCAATTTGGT	480
	TCTATAATAA CTATTATATC ATTAATGTTA TTCTTTTATA TTATTATGA TCAATTAATA	540
	AATGGTTTAA CTAATAAAGT TAATAATAAA TCTATTAAAT ATATAAACT ACCCTGATTT	600
25	TATTGAATCA AATAATATTT TCTTAATGAA TACTACTAAA TCACATCTAT GATTTATATG	660
	AATCACCCT CTTAATCNAT CAATTAAACC CTCTAATCCA ACTTTAAATA NNCTTAATTA	720
	TAAATTANNA ATAAATTTAG TGGAANAATT AATNGTAANC AATNTTTTNA NGGANITTTAT	780
30	CTCNNTCCAA CCGAACTAC TTTTATCCTT AANNAAAACC TTTAATNAAT GGACCNCANA	840
	NTCNNAACNN GTTTTC	856

(2) INFORMATION FOR SEQ ID NO:290:

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

40

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1242RP

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:290:

	GATCAGGTGC TAAATGTCCG GGTACATTAG TGCACCCGTA CACCGCATTG CGACATTACG	60
50	ACGCTTCTTG ACTAACCAGG TTATCAGGTG TATATAGTTA CATAACGAACG TCTGGTACAA	120
	GGAAGAGCCG GCCGGAAGTC CACTTCACCC TTAAATTGCC ACATTTTCATG AGCATTTTACA	180
	ACAGAAGCAC AGCTGTAAAC GTTCTCGAA CTCTGGAAGT TTCATATGT TCCTTAAGGG	240
55	CCCTTGATGT TGCAGTTCAA GCTAGTTCTG TTGGGAGACT CGTCGGTCGG TAAGTCGTCA	300

ATTGTTTCATC GCTTCGTGAA GGATTGCTTC GATGAGTTCC GGGAAAGCAC AATCGGCGCC 360
 GCATTTCTGT CCCGTACCAT CAAGCTGGCG GACCAAGAG ACCCAATGAT CAATTTGAGA 420
 5 TCTGGGACAC CGCGGGACAG GAGGGTACA AATGCTGGC TCGATGTAT TACAGGAATG 480
 CGAACGCGGC GTTGGTGGTG TTATGACGTT GACACAGGAG GATTCTCTAG CAAAGGCACA 540
 GAGCTGGGTT GAACGAATTA AGAGCAGGTT GGTGACGAGA ATTCTGGTAT CTCCCTGTT 600
 10 GGGCATAATT GATTNGGGGA NGAGGANCG AACCNAGGT ATTGACNCGA GAACNCAGGC 660
 TCCCCAAACC CNGGGTGANT TCCCNAGGT TTNNNOCAA CCGCGCGGTT NCGGATTIN 720
 TTCCNCGGAT TGGGGGAANN CTAAAACNG GCNATTCNT NCGGCCCCC CCGNTCCOC 780
 15 ANTTTCNTT CAAGNCCCC CAAAGAACAC CCGGGGNT ACCCCCTCC N 831

(2) INFORMATION FOR SEQ ID NO:291:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 878 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1242UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:291:

GATCTTGTCG ATTGTGAAGG AGGAGACGAA AAACGCTACC ATCAGTGTG CCGTCGAGAA 60
 CAAGCAGCTC ATCCCATTC A TTGCTGGC GGACGTGGAG ATTTGAGG AGGTGACTGT 120
 GAAGGCCCTC CCTAACGCT CTGAGAAGAT CGTTCTTATG GGGCCAGCG ATGAAGCGAA 180
 35 GGAAGCAAAG GTGAATGTC AGAATTACTT GAACACTTGA GCAAGCAAGG TATCTGAGAA 240
 AAAGATTTCG ATTCTTCGCA AGTTCAGGC TCTGATCGAT GCAGAGGATG TCAGGGAGAA 300
 ATACAAGGTC TCCGTATCT TOCCAACGC CCTTGGTGAT GATACTGTGT CGTTCTACCG 360
 40 ACTGTCCGCT AATCTTGATG ACGGATGCG ATATGCTCGC CAGTCTCTA AGCAGTACAT 420
 GGTAGAATCT TTGGAGGTAT CCAAGGCTCA CGGAAGAAT GTGCTCATG CAAAGAATTT 480
 AATGTTCTAC TTGCCAGTT ACGAACTCCT CCAAGGATAT TAAGGAATTC GTTCCAAGGG 540
 45 ANITGAANTT TTGTNCTACC CACTCCCGGA GGGATTGCC CGNTTTAAAN AAGNTTTTNA 600
 ATNCACANTT TTTOCAAAG GNGAATTTTG GGNACAAA AAAANTGINT TCCCCGNCNA 660
 TNCCTTATTT NTPAACNACC CCCCCCCC NGTTCCNCC GNITGAANACC NAANTATNAC 720
 50 CCTTCCCCC AGNGATTTAC CNGGGCCNIN CAGGGGANTC CNCTTTTNTN CTCCGGANTC 780
 AANAAAGGGA AANACCNEN GCTTTTGCCA GGNITGANAA AAATCCNCCC CCCCCAGAGG 840
 55 TAAGANCCNN GNAAGGNGG CCGNTTTGGA GAATNCCC 878

(2) INFORMATION FOR SEQ ID NO:292:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 844 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1243RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:292:

GATGGCTAAT CCGGAGGTTT GTTTTGAAGT CTGIGATCAG TTGGTTCTCC ACATCTTTGA 60
 GAATTCCTAAT AGCCTCCGAT GGCAGTTCCT CCAATTCAT TCGACCTGG GCAGACTGTA 120
 TCTTTAGAGA GTAAATTTTC ACACACAAAG AGTCAATCTT GTCTTGAACA TCGTCAATCA 180
 TATACTTCAG TACATCGTTC ATGTTTGGTA GATTCACGTA GCTTTTGAGT GCGCCTTTTC 240
 CTAGCGCCGA AAGGTTCCCC GCTTCATTGG ATGAGAAGCC TAGAACTGAC ATCATGGGGT 300
 GGCAGCATGT CTTCGCAAC TGTGACAACC AATAATTCAA GACTGCGGGG CCTAGATAAC 360
 AGGGCCCTTG CCGGCTGAG TCATAGCCTG AAGCCTCAA GAAGGATTTT CATAGGTTAA 420
 CATAATTATC ACGCTCTATC GGTGAGAAAT GAAGTTGGAT TAAGTAATGA TGCTGCTTTG 480
 GGATTTTAAT CTGATATTGG ACATCATTTT TTGTATGACG GATACAAAGG TTGAAACGTG 540
 GGATGATATC AAGAAGTTCT CTTCGGGTGA AAGTCACACC GTTGACACGT TGGAGCTTTG 600
 CGAATTTGTT GGGGATCTA GATGCATCCG ATTGTTGCC AGTTCCCTGG TATCTGGCA 660
 GACTGTGTTT GATATACTTT GGAGATCCCT TGAAGGGATG CACTGCCATT AGAATAACAC 720
 CTGGAATCCN CTAGTGAATG ATAGGTTTAC CCGAACCCCC ANTTTTGATA CCCGCGAGAG 780
 TTTGTNCATC GGGCCCTTCN NCTTCTGCC CACATTCGCT CCNATTTTGA TCCTGAAATG 840
 CTTA 844

(2) INFORMATION FOR SEQ ID NO:293:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 865 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1243UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:293:

GATCTGTCC CACCACGGC GCAGGAAGT GTACTGGCT TTTGAGATCA ACTCTGTGAG 60

GACGTGATC TTTTCGTGT AAAAAGGCGG GAAGCCGCAC AACACGGTGT ATAGGACGCA 120
 GCGGATCCCC CACATGTGA CCTTCATGGA GTAGCGTTGG TCCTTCACCA CCTCGGGGCG 180
 5 GGTGTACCCG ACAGTCCCCG ACGGCGTGT GGTGTGGTA GCATAAATTT GCTTCGAGAG 240
 TCCGAAGTCT GCGAGCTTTA TCACACGAT CCGCCGCCC CCGATGCCAG GTCCGAACAG 300
 GCCCTGTCT TGTTTGTCT TTGGGTGTC CGACTGTCT AGCTGCTGGC GCTTGCTGGG 360
 10 TATAAAATCA ATTGGGAGA ACAGCAAGTT TTCTGGCTTG ATATCCCGGT GGACAATGCC 420
 AAGCGAGTGC ATGTGTTTTA CCGGAGTGC CAGCTGCTG ATTACATGTC TAGAAAGGTC 480
 CTCGAAAAA TAAGTGAGTC GCAAGATTTC TCCAAAATC TCCCCCCCCG GCAAGCAGCT 540
 15 CCTGGACTAT GAAGTAGTAT GACTCGGTCT CCTGGAAGT CGATAAACGT CACAATGTTT 600
 TCGCCCGAGG ACACCGCCTT GTGGATGGTG ATCTCTTCA GAAGTGTCT CGCGATGTGG 660
 CCTGTTTGGC CGGCTCNC CNGTTNNNC GGGCCCCCC NCGTGCCCC ATCGTTAANA 720
 20 GGNCCCTTTT GCTGATCNC TTGACGGCNC CGTTNNNTAC NGNCNAGTN CCTTTTCGGN 780
 CGNCCCTCAG CGNCCNNG ANNCCNCGN AAACCCCNCC CNAATTNCCC NAACTTNTCC 840
 CNCAANCCAA GNCCGAANC CCCCC 865

(2) INFORMATION FOR SEQ ID NO:294:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 851 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1244RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:294:

GATCTGCCT TATCAGAGC GGCATCCGAA CTCCCCCGG GATGTGTTG AGAGGTAGCG 60
 AGCTCACCTC CACAACCTCC TCATCTGAAT CGTCTTGTA TGTACTATCT AGCTCTTCAG 120
 CGTCGCGGA TGCAGATCC GCGGTGTCTT TCACCTGTTT CAGCACCGCC TGTGCGTTAA 180
 45 GCTCAGAGAG GCAGGCATGT GTCCACCCC CGTATATCTG GCCCAGGTAA TACCCGTGG 240
 CCAGOGAAGC CATGTAAAG CTCAGTATGA ACGGTAAGTT GATACTGCC ATCCTAGTTT 300
 CTGTTTGGTA TTCTGCATGC TGAGTGCGCA AGCCAAGTTG GTTGAAAATT CCTTCAAGCT 360
 50 GACAATGCT GGTCTGCGC GCAGTTCAAC ACAGCAAAAC TCAGAGAGAG GTATAAAGC 420
 CATATATAGG AGGAGACTAC TCTATTCAT GCTATCTTT TCAGCCACA GTTCTCTGC 480
 CTCGAGAATT GTGTGTGAT TCCGCCAGCA TTTTGTTCAT CGTCTGACA TATTGTTCCG 540
 55 TTAATGTTG GAATCGTGG AACATTCCG CCGCAGCTG TTAGATTAGG CCACACCGCC 600

CTTGTTAGAC CATAGTGGGC GAGTGGGATT ACAGGTTATC CNTCGAACAC CATCCGTAGA 660
 ACCAGTGGCT ACNCTCCGN GTTAAACCCC TACGCTNCCC TTCCACTNVC CGATAGTCCA 720
 TACGCGGAAT TTGGGGGGCC AAAAAAGTGC CCNGCAGGAA CNCAAACGAA GNVTCAACGC 780
 CNVTGINTGG GCNGGTGCN TTTCNCAAA NCAGTGGTA NTINLAANCC NGCCNCTTAT 840
 TMTCCCCCAT T 851

(2) INFORMATION FOR SEQ ID NO:295:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 859 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1244UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:295:

GATCAATCTG ACAGTTGGAT TGATACCAGG TGCTATCTCC TTATCAGCCT TTACAGTGAC 60
 GAAGGAGGGA TTGGATTGGG GAATGGAGAA TAAAGATATT TTTGATCCAT CACCAGAAGG 120
 ATTIGATCCC TCTTTCAGTG AGCATGCCCA ACTTTTACTC TOGGAACGTA TAATGGGAAA 180
 CTTTCTCGTT CCAAAGTCTG GCATCTGGAA TTATGCATTT ATGGGTGCTG GATTTAACAG 240
 AGAGCTACGT TACGAGCTAT CTCTGACAT ACCACTCGGA TTTTATGATG AACAGCACCG 300
 TGCAACGCAT TTTCTACAAT TCAACGAAGT GGCAGCTGAC GATACTTTGG AAGCAGAACA 360
 GGAAGATTTA TTCTCTAAG TACATATTAA GGATAGAGCC AAACCTGCAA CTAGCTTCAG 420
 TTGGGTATGA ATCCATATA TGTATATATC AATACAAGGG CCACTCATGG CTGGTGACCC 480
 ATTTAAGCAA ATACCATATT TTTTAATGTT GCGGTGATTT TATAATCTCG ATATCATGAT 540
 TTTATTTATA GGAGATGACT TTTCCCTCTA CAACGCCACA TTATAGAAGA CGTCAATGC 600
 AGCACCCAGG CTGAAGCCAG AACGGAAATG TTGGAACCAG AACAGGCAGG TTTGAATAGC 660
 TCGACATATG AACCTCCCCA GAACATGTTT TTTTGAACA TCAATGANT TTCTGCCAAA 720
 AACANGAAAA TGGACNCCN GCATCATTCA AAAAAACN TCCTTGAACC TGACAAAAAA 780
 TATGCACCN GATTTTTTGA TCACGGANNG TTTTCTTTAC NCCAATTAAA TAGGNCCCC 840
 NGAGATTTTT ACACCCNCC 859

(2) INFORMATION FOR SEQ ID NO:296:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1245RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:296:

```

10  GATCAAAAAC AGAGTACCCCT CCGCAAGAAC TTCCCATATG AGGCCAGAG AGAACAACAT    60
    CCGCGATCAC CTATATCAAC AACGGAGACC TTGGTCTGCC GAGAACGTCA CAGCTTATCT    120
    TATTATOGAT CGAATGGATG TTGGAAGAA GATACAAAT AACGCATAAT TGCTGAATAT    180
15  ATTGCACGCT TCTAACGCAA ACGACGAGCC TCACGCTCAG ATTCCATCAA GACCAAGATG    240
    TCGTTCTCTC TAACTGGGOC CTTCAGTTT CTGACAATGG TTCTGGAAGT GTCGTCCAAG    300
    AACTCAAGC GGACCTGGGT GACACACCA CGAGAACCGG TTCTAAGTAG AACCTTGATA    360
20  AACCTAGCTA GAGTGACTGG GGTCTTGAG TCCATTTTGA TCTATTGCTT CTGGATATA    420
    AAATATCTAG TAAAAAGTGC TGAATAGGTG AGAGGAAGAT ATCATGAACA GCGGTTTTT    480
    TTTGATGCCC CGAAAAATTT TTCAGGTCTG CGATGCCAT CGCAGGTGAA ATGTGCTTG    540
25  GTTCTTGAAA AATCACATCA TACGATAACT ATGCGTGCAC CCAAGGCOCT TGGCAGCAGC    600
    GAAGTGGCGG AAGGTTAGCC AGCCAGAAC GAAACCTGAG AACAGGTAA GCTCAGGTGA    660
    ATTGTTTGCT TCTATTGCTT TACAGTTCAT CTTCGGTAA TTGCAGTATC CGTTGATTCC    720
30  CCNCAGCTGA CCAGCGTTN ATTCCCGTTT GAACTTTCAG AGNTCNIGAA ACCCTNGINT    780
    TTTCAACCCN TGACACNTAT ATNCCCCCT TATATGACTT CCGTGNATNC CCG    833

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(2) INFORMATION FOR SEQ ID NO:297:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 864 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1245UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:297:

```

    GATCCGGGTA ATACAACGCC TCGGACCOCT CCGCGGCTAA CGAGAAAATC GCGCTAAGCT    60
50  TCCAGCCTAA TCATAATAAA AGGGGCATTG GTGGAAGCTT TCTGGTACTT ACGCGAGTAA    120
    ACAAAAAGCG CAAGGACGTT TCAGAAGAAG CCAGAAGCAG CAATGAGCGA GATCAACTCG    180
    ATCATTCACA GAGTGAATGT ACTGGTCTCA AACTGCCCA AAGAGAAGGA TGCAGGCOCTG    240
55  GAGAAAGAGT GCGCGCTGAT CAAGTTGGC GGCATGGTAT CTAACCGOGA ATCGGGCOCTG    300

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TTGTTTGGAG AACTGGGGCA GCAGATGGAT CGCACAGCGG TGCTACGGCA GCCATGGATT 360
 GTGAGTTTGG TTGTGGCCTT GGGCAACGAG CTATGCGCGC GTGGCGAGGT GGGCGAGAGC 420
 5 TTCTGGGGCA AGATATTGGT TCCGTTGGAT GGACAGACCC CGTTATTGAC AGTTACTAAC 480
 AAGAATCCAG GGTGCGAAGT TTTCGCGTAA TGTTGCGGTC CATGGCCGGT TGGTGGAGGC 540
 GCTCTGGAC GGGGCTTGT CCGGTACGGC TCCCTGTGGG TGGCAGAATA TGGCGTTGTT 600
 10 GCTCCAGCTG TCCTATNNAC CNCCGGATT NTCGGAAGT TGNIGNCCCC CCTTTACCCC 660
 CCCCCNNNN AGNATGGTTG GNGACNNTTT GNNCGNTTNC CAACTTCCCT NNNCCCCNCT 720
 TTTTGTGNAC NTTGAANCA TTTTCCCCC TTAANTCAA CCNACNGIT NNNCAACCC 780
 15 CCCCCCCTT TGGGAAAANN AGNAAAAAN ACCTTTTCCA CCCNGGATNC CCTTTGNC 840
 NCTGGAACNG NNNVNTTNC CCTC 864

(2) INFORMATION FOR SEQ ID NO:298:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 830 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1246RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:298:

GATCAACAAT GATTGTGGCG ACGGGGGCG GGGGTTCAA ATTCTACGAC GTGCTGCTGT 60
 CGGAATTTCC GGGGTGTCA GATATCTCC GGCTGGACGA GATGGACTGC CTGACGAAGG 120
 35 GGTGGACTT CTTCATCCAC AAGGTGCCCT ACGAGGTGTT CACATACAAC GACCTGGACG 180
 GCGAAGGCAC GGTGATCGG GTGGCGGATG ATGAGATGTA CCGGTACATG CTAGTGAACA 240
 TAGGATCCGG GGTCTCGATT CTGAAGGTGG AGTCGCCAA CGAGTGCATG CGTGTGGGCG 300
 40 GCTCGTCATT GGGCGGGCG ACGTTGTGG GACTACTGTC GCTAATTACT GGGCGAAGA 360
 CGTACGACGA GATCTGGCC TGGCAAACC AGGCAATAA CGGAACGTG GACATGTTGG 420
 TAGGCGACAT ATACGGCACC GACTATCGA AGATCGCCT GAAATCCAGT AATATTGCAT 480
 45 CGTCGTTCGG GAAGTCTTC CAACGGGAGA GGTCAACGC GCCCTCGGC GGGCTGACT 540
 TGGCGTCTG CGACCTGAC GTGTGAGATC CGAGATTGA AATGAGAAAT CCNNACGGC 600
 GAATNTTCCC ATCCCTCNTG TACCATCTC CAACAAATG GCCAAATGCT TNCAGAGCC 660
 50 AAATCCCCAA CTCCAAAAA NNTCTTTGG GTCTTATNT CCCCCTTTT TACCCCTGA 720
 CCTTTACCC CCCCCTAAT CNGGTCAAN GNTTTAACA NCCNCCCCC TTAGGNTTAA 780
 55 GGTNTTGGC CCNNGGCC TMTGCCCCA AAAATTTCC NNCNNTCTIN 830

(2) INFORMATION FOR SEQ ID NO:299:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 861 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1246UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:299:

```

15 GATCGTAGAG CGTGAGACGG CACCGGCGGA GGCGCCAGCG CCGGACGGTG TGCAGCCAGC      60
   GGGGTTCCTT GAGCTGTACC GCGCGGCAGC GATATCTAGC TGGCGCCAAC GGCTGCAGAA      120
   GAAGAATGGG CAGCGCAGGC CGCGCGCGGC GGCGCTGGCC GCAAGCGAGG CCGAGAAGAT      180
20 CCACAAGGAA AACATGGCGT ACATCGAGGG GCTGTGGGAG GAGCAGCGGA CGGCAGAGCG      240
   CCGCGAGCTG TTAGAGAGCC TGGACCCCAA GGTGTGTCAG GCGTTGTACC GTGGTTTGA      300
   TGCACGTGCA GCAGCGGAGC GAACGGCGCC CTTAGTGGCG GAAGTCGAGG GAGCGGCAGG      360
25 CACGTGGGTG GCGCGCAACC GCGAGGAGCC GATGATGCCG CGCTTGATG ACGGACCGT      420
   CGACGCGCGG CTAGCGCGGC CACAGGCTTC GATGCCAGAG GCGCGGCCCA CGTAGGACCT      480
   GCCAGCGCGG CTGGAGGATG CCGAGGACAT CGCGCCCCAG GAATACCACT TCATCAGCAG      540
30 ATGGACCATA TGAAGGACAG GACTTCTTAC GAGATATCCA CTTCCTCCGC AATGAGACTG      600
   TGGCGCCCAG ACTGGACATC AACGACCCCA ACITTTATGAG CAGCTGCACG AGAATACTTC      660
   CGGATNTTCC GAAAGAAANA AATACTNGA ATGGATGAAG GCCACTGAAC CCTGACACTC      720
35 TTCTNCTAAC TCNCGATTG TCGCGAATGC CCTCCAACTT AGGGCCCATG TCCCCCCCCC      780
   CCGGAATTIN NTCCCNINAA CNGCCTCNC CTTTCGAAAA CCCCCCTTIN CCGGNTTCC      840
   TOCCATTGTC ACNITCCCCA C      861

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(2) INFORMATION FOR SEQ ID NO:300:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 810 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1247RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:300:

```

55 GATCTGGCGG CCGAGCTGCG GCGCTGTATT GCTCCCTGCG GTTACTGTGG CGCGCGCGGC      60

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EP 0 866 129 A2

GTGTCCTATT CGGCATCGCG TACGGGTAC TAAGCCCTC CAGGACGGG AAAAAAGCG 120
 CAGGGGCTC ATAGAGCACC ACAGGCTCTG GGTGGGAAG CAGTGCATC CGCGGCTGT 180
 5 GCTTGTCTAC CGCTCGTGC GCTTTGCCCC GCTCTGCCAC CGGCGCAGCC GTTGCAGCCC 240
 CGCGGGCCGC GGGCGCCCTG TGCATGTAG CGGCACGGC GCGGGGAGG CTCGCTTGC 300
 GGACCGCTT GATGACCCG TTTGCGCCG GCGCGGCGC GCTCGCCGA GCGAGGCCA 360
 10 GCGCCGCTG CACAGCATC AGCATCCCAT CCACGCTTT CTTGTGTCT TCACCAAGC 420
 TGTGGCTGA AGCAGACTCT GCGTATCTC CTCGCTCG GACGAAAGG CTCGTGCTG 480
 CTCGACTGC TCTGCCGTA CTTGCTGTA AGTACGGCG CAGTGGCGC GCGCGCTTCG 540
 15 CCTCGCGGC CGCGGGGCG GCGAAGGGCA CGTTAGGGG CGAGCGGCC GTCAGACCT 600
 CCTCATGAA TCGAAGCGC TCGCGCGTC GCGCAATCG CCGCGGAAC CACCCCCCG 660
 GGGGTTNG NGGCGCGGC GCGCCCTC TTTTNAAC GACNACNCT TGNAAANCG 720
 20 TTACCCNEN CNNTCAAAC NCCNGGAAA ATTTTCNEN ANNNNNNNN CCCCCCCT 780
 NINCTINGAA ANAANGNCCN GCGCTTNGG 810

(2) INFORMATION FOR SEQ ID NO:301:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 630 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1248RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:301:

GATCAGATAC CGTGTAGTC TTAACATAA ACTATGCGA CTAGGATCG GTGGTGTIT 60
 TCTTATGACC CACTGGCAC CTTACGAGAA ATCAAAGTCT TTGGGTTCTG GGGGAGTAT 120
 40 GGTGCAAGG CTGAACTTA AAGGAATTGA CGGAAGGCA CCACAGGAG TGGAGCTGC 180
 GGCCTAATTT GACTCAACAC GGGAAACTC ACCAGGTCCA GACACAATAA GGATGACAG 240
 ATTGAGAGCT CTTCTTGAT TTGTGGGTG GTGGTGCATG GCGTCTTA GTTGGTGGAG 300
 45 TGATTTGTCT GCTTAATTC GATAACGAAC GAGACCTTA CCTACTAAT AGTCTGCTA 360
 GCATTTGCTG GTTGGCACT TCTTAGAGG ACTATCGGT TCAAGCCGAT GGAAGTTTGA 420
 GCGAATAACA GGTCTGTGAT GCGCTAGAC GTTCTGGGC GCACGCGGC TACACTGAG 480
 50 GAGCCAGGA GTATAACCTT GCGGAGAGT CTGGGTAATC TTGTGAATC GTCCGCTGT 540
 GGGATAGAG CATTGCAATT ATTGCTCTC CAGGAAGAT CCTAATAGC GCAGTCATCA 600
 55 CTTGGGTTGA TACTTCCCT GCGCTGTAC 630

(2) INFORMATION FOR SEQ ID NO:302:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1248UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:302:

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GATCGCTAGA TGCCAGGAT GAGACTGTTT AGGTTAGGCA GGTGTGTAT GCGCGCCAG      60
AGGGAAACC AATGACTTTG CATAGAACA ACCCGCATC ACCCATGTCT TCGCTGTAT      120
AGAGACTAAG GTATCTGAG ATCCTTAGC GACTCTCTCC ACCGCTCGAC GAGGCCATTG      180
AGCTCTTAGG AACTGCACAA ACCTACTCGA ACTCTGTTTC CAGACTTCTT TCTGTTTGTG      240
TTCAACTGCT TTCGCATGAA GTACCCCCCA GCTATTTTTC CTTACCCGCC TGGTGTTTGT      300
CTATATAACC GGTGTATTTT TTGATAAAAA ACTCAGCTCT TCCTCTACGG CAGAAATATA      360
TATCCAGTCC TTAGCGCCAT GCGAAAATCT GCTTTTTCAC CGCTGTTTCT CCCAGTCTTA      420
GCACTGCCAG AAAAAAGATG TATGGCGTAT AGGCGCTGGC CCGCGGAAA AAAAAAAAAA      480
ATAGAAAAAT AGAAAAATAA AAAGACGTGG GCGCCCCCGC GGGCAGACGA AGAAAAATA      540
GGCGCCACC CTTCCCAAGC AGACGAACAG GCGAGACATA ATAAATCCCA CACCAGGGAA      600
GAAAGTCTTG TGCAAGCTCC CGGCTCATAC GCTGCCATCT GTTCATCCG GNTTGCAACC      660
AGTATGGATG TTCAAGCATG TCCGAGCTC CGCTGCTTG      700

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(2) INFORMATION FOR SEQ ID NO:303:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 837 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1249RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:303:

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GATCATGCAA CATTTCTTCT TTTCGCTTT TCTGCTGTG CCGGACGGTG TGTCCCGCC      60
CCGCACTCT GAGGAAGAGC TTGCGGACTG CAGCGAGCAT GCCACAGTA CCTGGGGCGA      120
CTGCTGCGGC ATTCCGATAC CCAGCGGGT GGCGGCTCC GAGGCGACTC GCAAGCATTC      180

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TAAACCACTT CCATTGATT GAATCAAATT ATATATACCA TTAAGTAGAG CTACCATGG 240
 AACCTTAGCT GGGACGAGT AAAGATTGGC GGTTCACAGA TCAGCTTCTC GGGGTGATC 300
 5 GATGGCCTTT TCTTGGCTAT CAGCTTCTCG TACCTTAGCA GCACGTCTC GTTCAGGTAC 360
 AAGATGTGCT GGCCCTTGTA ATATGCGAGT ATGTTAAGAG CCTTGGCTGT GTGCAGTATG 420
 TCTGTAGTCG TGAGCGATGT CATGCTACTG ATTTTCATGA TCGTGATCTC GGTGCCGTTT 480
 10 TCGACTAGCA GCTTGATCAG GGTATCGGAC CAATAGGCTC TGTAGAGAGC AGCCCAAGAT 540
 CAGAGAGCGG CTCTCCGGC ACCCAACTTG TTCTCCTTCT TAGAGAGCTC CATAAGAAAC 600
 TCAATCAGCA GCCTGCCGTA CCCCATCCGC TGGTACTGAG GGAGCGTCCA GAATACACGC 660
 15 CACATTGTAC CGTCCGCCA NTCCTTTCCN TTGGANAATN CCCACCAAGT NGTGCCCCA 720
 CTCCTCCCC TGTGTTCTTG CANTAAAAAA AAGGTCAANT TCCTAINTACT CNTGTGNTCC 780
 AAAAACTTT GANAAAGNIN GTTGGNACC ACTTCTNNT NCCCCGTCAA TTCAAAT 837

(2) INFORMATION FOR SEQ ID NO:304:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 853 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1249UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:304:

35 GACCTGCCGA TGGACNGCCG TTGGCAGGTG ACTGCCCTAC GGTCCTTAGT CCCCACAAAG 60
 CGGATGGGCT TTGTGGGCAC ACGCAAGAAC TTGGCAATGA TGTGACAC GTCCATGGTG 120
 TCCTATTCT CCTGTACAT TGTGAAGTC ACGAGTTCT TGGAGGGGCC GTACCCCGAG 180
 40 TTAATGACAC CGTCTCGTC TCTGTCTGC TCCACATAGT CCTTTTGCT GACTCTGGTT 240
 TTACGGTTGG CCAGGCAAT CTGGAATGTG TTGGACGCG AAGTGACCGA TTCAAGCTCA 300
 TTGTTGAACG CCTTTCGTAG CAGCTGGTGG ATCTTCGTCC GTGCAGCTTT GTCGTCAAAG 360
 45 CTCCTGGTGG TTTCCATTTT CGTGACGTC CTGTACACG CCTCAATCTG CTGCATGTCC 420
 TCCTCGCCA GTAGCTCTAC CAGCTGGTTC CCAGCTCTG CCTCCACGC GTGGTTGTGG 480
 CGCCGTTCCG GCTCTTCAGC CTCTGTGCC TTACCTGGT CGGCAGAGGT TTGGGTTTAG 540
 50 CAGGCATTTT GAACCCATTG TCCCGCAAGT ACACCACTGT TCCATCCTTC TGGATCTCAT 600
 TGACCATGAA GTCCGAATAG CGTGTCTGA TCTGCCCGCT AAACCTGGT ACTCTGCTGA 660
 GAGGTACTCT GTGATCCAAC GTGATTCTT TGAGTCCATC GGTCTCCGNT TTGGCCCTT 720
 55 NCNCAAAAG TTCTGGCTG CTCNNANCC GCTCINTAAT CCCCAGAAAN TCTGTACNNT 780

TCNCAATTTC CANNINNNCC TACCTNAACC CTGTGTNAAC CTTCACCCN ANAANTCATA 840
AATATTCCCC NCC 853

(2) INFORMATION FOR SEQ ID NO:305:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 834 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1250RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:305:

ATCTAATT AAAATTTTAA TTAATTTT ATATTTTAGA AATATATAAT CTAGAGATAT 60
ATAATCTTAA AATCATAGGT AAAAATACAT AAGATAGTAA GAATAAAATT AGTAAATAA 120
ATAGAAAACC ATAAGTTAAT TGATTCATAA AGAAAAATGG AATTATTTGT GGCATCTTAA 180
TTTTTATTAT TTAATTGATT ATTATCTATT TAACATAAAA CATTTTAAAA TGTATATAAA 240
TAAATAAGAA ATTACTTATA GAATATTTAT TAAATAGTAT TTAATTTAAT TTTAATATTA 300
AATATACCAT TTTTATTAAT AAATAGATTA TTAAGTTTAT TAATATTAAG TGATATATAA 360
TTTAATTTAT ATAAATTATT TAATTTACTT CATTGATATA TATAATTATT AAATGTACCT 420
TTCATAATAT TTATTTTTAT TAGCTAGTA ATATTTCTAT TTAATAGTCT ACCCTTTAAT 480
TGGATATTAC TACCTACTAA ATATTTACCT AATAATATAT TATTAAGAAT ACTTAAATCT 540
AATAATTTAT TATCTAAAGT ATATAAATTA ATTAAATCCT TTTTATTAT TATTTAATTA 600
TTATTAAATTA GTAAATTATA TTTATTATTT TATTAAATA ATTTTTTGAT AATAATATAT 660
CCATATTAA TGGTAATTTA TTAATAATAT CCTTTAATGA TTINATGATA ACCNTATTAT 720
TATGANATTA GTTAATAGTG ACCTTAATAT CCNATCCNA ATATATNTAT TTATTNTAA 780
NAACANANAA CTTCITATNN CATATTTANT TTNANTATIN ACCNTNCCN NNNT 834

(2) INFORMATION FOR SEQ ID NO:306:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 847 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1250UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:306:

GATCAAAAT TCAACAATTT CCATTTTCATT TAGTACTACC ATCACCATGA CCAATTGTTA 60
 CATCATTTAG TTTATTAGGT TTAATAATTAA CTTAGCTTT TACTATACAT GGTATTATTG 120
 5 GTAAATATTA TCCTTTATTA TTATCTTAT TAGTAGTTT ATTACTAATA ACTTTATGAT 180
 TTAGAGATAT TGTAGCTGAA CTTACTTATT TAGGTGATCA TACTTTAGCT GTAAGAAAAG 240
 GTATTAACTT AGGTTTCTTA TTATTTGTG TATCTGAAGT ATTAATTTTT GCTTCTTAT 300
 10 TTTGAGCTTA CTTCATTCA GCTATAAGTC CTGATATTCT ATTAGGTAAT GTTTGACCAC 360
 CAGTAGGTAT TGAAGCAGT CAACCAACAG AATTACCATT ATTAAATACT ATTATTTTAT 420
 TAGCATCAGG TCTAACTATT ACATATAGTC ATCATGGTTT AATTGAAGGT AATAGAAAAC 480
 15 ATGCTTTATC AGGTTTACTT ATTACTTTCT GATTAATTGT TACATTTGTA TTATGTCAAT 540
 ATATTGAATA TAGTAATACA TCATTTACAA TTACAGATGG TATTTATGGG TCCAGTATTT 600
 TTGCTGGTAC TGGTTACATT CTACNTATG GTTAGTTTAC TAATTAGGTA GGTNCTATTA 660
 20 NGAANAACAA GAAATTNOCT TTAACNCCN CCGCTCCGTT NGANATNNAA CCNCACCTAT 720
 TATTACNNTT TTINAAAATA NGAANACCC CANNATTGTT NTAANGAAG GNNTAACGTN 780
 25 NACNCACCN TAGNNTTNG GTCCCCCCCC NTGCTACCCC ATTTTGNCCC CCCCCACAN 840
 AACCCCC 847

(2) INFORMATION FOR SEQ ID NO:307:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 825 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1251RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:307:

GATCAGGAGG GTTTTGGGGT GCTGCGGAC GCGGGTTAG AGGTAATGCT CCTGCGAGAG 60
 GATGACAAGA CTGTGCTGT GTACCGGGAA GTGCAGAAT AGTGATACT ACATAGTCAT 120
 45 AGTTATAATA AACAGCCGC GCGGGCTCT AACGAAATGG GGAGTTGCC ATGCCACCG 180
 GCGCGCGGG GCGCGCGGG CGCCAAAGG GCGGTTCCA GCGGCAACG GCGAGGAAC 240
 CGGGCGGCT GCGGGGTCC GCGGGTCCG CGGGTGGAA CTGGCCGCG TAGGGCAGCG 300
 50 GCGCGTGGG CGTTGTAGC CGCGATCGA ATATCATGC GCGTGGGG TTGGGCGCG 360
 GAAAGGGTC AAACGGGTT GCGGCTTCT GCGGCTGG ATACAGGTG CTGTGCGCT 420
 AGCCTGCAGG GCTGCCAGC AGCGCTGCG CGCGCGCGC CGGGGGGAG AGAACCTCGT 480
 55 ACTCGTCTC GAAGCCAGC ATGTCTGCTG GCAGCTGCG TGCAGGAAC TGCGCGCGA 540

TTGGCGGAGG CGCGCCTCCG CTGAGGGCGT CNTAATCACC GGGCTGTGCT TTTGGGNGG 600
 GCTTCTCCTC CGCCCAACAG GGNAATTTCC CTNGNAACT TNGCGAACTC CNGCCCTTA 660
 5 AAACCTGCCN CNGCCTTTTN CTTNNNGCT NTCTCTCTGC NNGCCCTTTT CCCCCCTAAN 720
 ACCCNOCTAC CCNTNTCTNT NGNTTCNNNC CCTACANCT TCTNNCTNC TCCCCCNC 780
 ATNTCTCTNT TATATCNAA AATTTCNTN CTTTTTACCC CCCCC 825

(2) INFORMATION FOR SEQ ID NO:308:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 856 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1251UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:308:

60 GACTGTTCG TGTGAGGAA GATAATCAAT ACCGGAATCC TCTGAGCTTT GCTTCGGCTT 60
 CCATTGCTT ATTACGAAAT TCGCGTCTG CTCTAACA TGTGTACCG TTTATACAAC 120
 CGCTTGTGA TCGCTTTTA GCAGAAGCC GTTTTGCAC CGACAGAGAT GACAACCTTT 180
 30 GCTACTTCT CGATCCAGTA TTGTTCAGTG CTGTAGTCAT CTTGGATCG TTGGTAAACA 240
 CATATACCC ATCGCAGTTC GAGAAGATG ATACCAGTT GCTTTCCTC TCATTTACCC 300
 CATTAAATTC GCGCCTTTTA TTGTAAAGT GCAGCACCAC AGAAATACTT GATAAAATCT 360
 35 TAGGCAATGG CCATATTGG AGTTTATAT TACTAGCAG ATGGTTCCT ATCCCGGCT 420
 TGTCTGTTC GTTCTAGGG GCGCTGTAC TACCTTTAGT CCTGTGTAC TCACAGCTTG 480
 TTACCGGCC GGCCTCTAT GCAACTATTA TATTTGCTTC TAATATATAA GTACTGACAT 540
 40 TTTCATAGC GCTAGCTAC CGCTGCTTG TCTTGGTGA CTCTCTCAG AACAGCTTCT 600
 TGAATTATC TTGTACTATC AACCATGGAG AACTGTTC GGCACACCC GACCAAAAGG 660
 AGAACCGAAG GACAATTTG ANCTCCCTT TCCCCGAAT TANGNTNT GAANATATNA 720
 45 ACCGGGACCG GGTCCCTNN TCCCCGGGT ANTTNCCNT TAAATTCGT TAAANTTANN 780
 AANGTNTAT GGGNGAANG AACCCANCT GACCCNAAAN GTTNGTGGG GTTTAACTN 840
 CTNNNGCC GTNCG 856

(2) INFORMATION FOR SEQ ID NO:309:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 834 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1252RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:309:

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10  GATCTCCTAT TAGTGGGTAG CTAGCTAGTC GGGCGGCTG GGGGGGGCG AACTGGTACC      60
    GGGTGGGAGG CCGAGTGAAT AACACTCCGG GTTCTTCTGT CTCTTGCCAT GCGAACATA      120
    ACCATGGCGA CTTATATAAG TTGGGGGGGC GTGCAGTGT ATGAGCCCGT ACGAGCAAGA      180
15  CGTCCAGCAG TTTCAGGCGC GGTAGTGGG GGGTTGCAGT TGTTATATA TTGCCACCT      240
    TCGGAAGTGA GACAGCCGTA TGCTGGAGGC GGTGAGTAGT AAGCAGGAGC CGTGACTCA      300
    AAGTAGAAGT CGGATTGTAA AGGACAACAG ACCAGTGGCG GTACGGACAG CAGCGGGCCA      360
20  ACGTAGTAAT AAAATATGAC GAGAGATATA CAGAACCACC TACTCTTGA GACGGCCAGC      420
    GAGGTAGCGA ACAAGGTGGG GGCATCTAC TGGTGCTGA AGTCGAAGGC ACCGGTGACC      480
    TGGCTCAGT ACAAGGACCA CTACCACTGT ATTGGGGCCC TGAATCCAGA CTGGTGCCAG      540
25  ATAGAAGTGG AGGCGCTGGA CTGGGAGGAT GACAGCGTGT TGGACCCGGG AGATTGCTGC      600
    CCGGTAAAC GTCCCTGCA GCACATGGG AACCCCGGT TGAATCCGT ATATGCCGT      660
    GGTNGTGAA GGTNCCCCCG GTATCTTGT TCAACTGT TCCGTACCC CCTCTCCAC      720
30  AATTGAAGCC AACTGTGAA CACTGCGAT CCCCCCCC CAAANAACA NAAACAAAC      780
    CCATCCGTA GGTNCCCCNG NCTGTCCCG AAATTAANGC CGANCCNC TCAN      834

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(2) INFORMATION FOR SEQ ID NO:310:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 858 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1252UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:310:

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    GATCTTTATC GCAACNPTT GGTCTGTIT CGAGTTACG GCCTGGGGA CCACACCGAA      60
50  AGCGCCAGCT CCGAGTGTT TCGGAATAT GTAGTGGCT TTGTTACAT ACGAGGCTGG      120
    TTGACCTGTC AACTGTGGA AGAACTTGT CAACATGTT GCCTGAGAG GAGGACGATC      180
    CTGGGGCTTC GATGCGTCT CTTGCTGCT CCTACACC TTACCGAGTT TTCCGGTGA      240
55  ACTAGTGAAC ACTGCCATAG CCTGCGAGT AAAGTGATGT GCAATATTA TATTGTAGTT      300

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TTGTCTTTT CTTGATTGTT TTAGGCTGCC GATAGCCAC GAGGTGAAGT TTTGTACACT 360
 TCACACATCC CAGCACTGCC ATCAGCAGAG ATGTTGAAGA TCAAATTTTG CAGCTACATG 420
 5 CTGCATTGTG GTGCTTGGGT TAGCAGTAGC GGCTAAGTTC CAACTACATT GTCCCCATTC 480
 ACTCAGAAGT ACCTCGGTTA AGCTCACTAT GCGCTTATTG CCGAGCGAAG CCGAGCATTC 540
 TTACAGCAAT GATGAGAAGA GGCTATTGGT ATGTTAACAT AACGCCAGTA GTGTTATATT 600
 10 TACCACTAAC CATAGAAAAA GTACAGAATA TCGTAGCCT ACGAACTGAA TGAATATNIT 660
 GCTTCCCCNC CCGNCCNTA TACCAATGAA TAATAAATTG GATTTGCTAA TATCTNCCCC 720
 ATATCCNGCC GGGCCCCCGA NNCCCTNCAA CTTATTGGTN CAGNCCNCCN TGCNCCNCCN 780
 15 TTTTNTTTIN TCNNGGAACC CCCCCCGGT CATCTCGNN TGNVINAANA TGANTACCC 840
 CCTTGNTCC CCGNCCCT 858

(2) INFORMATION FOR SEQ ID NO:311:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 841 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1253UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:311:

GATCCTAACC AAGCTGATTG ACTCCAATT TCCACTTGGC ACATTGACA AGCTGTTGCA 60
 35 GAGCTCGACG GCGTGGGGG GTGGTGGCTC CATATTGGGA TCAGATGGTG GGTGTACAGA 120
 CACGGAGGCA TTGGGACATG ACCGAAAACG CAAGAAGTTG GAGCCCCGCT TCCCGGCGCC 180
 TCCCGCGAGC GTGGCACTCG GCGCGGCGCA TCGCCGATAT AATTCTGAAT TGGGCTCAA 240
 40 CTACTTGGC GAGAGCAACG CGCAGCCAG CGTGATGCTC CCGCAGGTGC AGCAGGCTG 300
 GAACACAGCT CCTGACAAC AACCCAGACA ACAGCATAGA CAACATGGGC AGGCCGAGGA 360
 AACGGTTCA CCACCAATGG CTCTTGGTA TCCCCCTCCA ATGTTAATGA ACAGCAATTA 420
 45 TACATTCCCT GCGGGCCCC AGCAGCCGCT CGGCCCGCAT CCACAATGC GTGCCGAC 480
 GCAGCAATCT GATGTCCAG CTACCTCCC CGGAATATCG GCGTAGCACC ATGTCCCAA 540
 CTTCCACAG CCCCCACGC TGACTAGTCT TTTGTCTAAA CATCAGCTC ATCACTCGCA 600
 50 GCCTAATGAG CTGCTACCT CCCATGCATA TGTACAACAG ATTTGCTAC TCCAATAGCC 660
 CAGTCTGAA GTCTGCTTC TTACGTTGG CCTCTCCCC TTGGCCAATN TATCCTGTN 720
 NNNAAAACN AACCCNGTT CCCCCTGCC NGAATTTCTA CTTTACCGT CCGTTATTC 780
 55 NTAAATCATA ACCCGTTCA ANAACCTTT CCTTGACNAT ATNCATTGN GCNANCCNT 840

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841

(2) INFORMATION FOR SEQ ID NO:312:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 842 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1253UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:312:

GATGACGAG TTGATGTTG AGAAGTTCAA GAAGCTGTTT GCGAACTGCA TTGCAAGGA 60
 TGTGGATGTG CCGAGGTTG TOGCGAGTA CCGACTGATA GTGCGGTGTG AGGAGCCGG 120
 TGGGTGCGG CCGCGCGGG CCGGTGACG GCGCGAGCG GAAACGGAAC CGTTTTCGA 180
 CGAAGAGAGC AAAGAGATTA GGATCATTCT GCTCCAAAG CCAATTGCGA TTGAGTTTGT 240
 AAAGAATGTG TGGAGAACT GCTGTGTGCT GTACCGTTTC TATCACCGCC CGACTTTCAT 300
 CAGGAAGCTG GACGACCTGT ATGAGACAGA CCGCGTGAG TACAGGCAG AGCAGCTACG 360
 CTTCCTGCG TTGTGCTACG CTGTATGGC AGTGGGTGCG CTGTCTCTA GCTCATGCT 420
 CCTGGTGGG GGAAGCGAAG ATGCGGCTC TGCAGGCAGA ATAACAGCG CTACATTGGC 480
 GGATACGGAC ACACGGCAG CTTATCTGCA CGACGAGGC TACCGGTACT ATGTGCTGC 540
 GAAAAAGCTA GTGATCTAC GAACGCGGT GACACGAGG CGAATCAAAC CTGTGTCGG 600
 TTTGTGTTCT CCAAGTTCC GCGCGTCNC CCGGCATCC GTTTTCTGC CCGCTATNA 660
 ATTCCNCCN CTTNAGANT CCACCCACC CCCCCGANA ANTAAAAAA TTTCCTCCCC 720
 CAACCGGAAN TCCNCCCCG NTTTACCCCC CTTANAAAG AGGTTTTTTA AACAAANCG 780
 GNGCCCCNC NCCCCGNN CNNNACATC CCCCCTAAA TCGGAANATT NNCCGAAAC 840
 GC 842

(2) INFORMATION FOR SEQ ID NO:313:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 836 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1254RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:313:

GATCGGCCAC ATTGTCCCTG AGGCTTATGA AGCGGCCCA ATTGCCCTCG TGCAAGACGG 60
 TGACGACATT GTCATCGACG CCGAGAACAA TGCCATCAAC CTCCTTGTGC CAAAAGAAGA 120
 5 AATTGAGTCG CGCCGCGCTC GCTGGACCCA GCGCGCTCCA CGCTACAAGA GGGGCACGCT 180
 CGCCACCTAT TCTAAGTTAG TCTCCAACGC CTCCAAGGGT TGTGTCTTGG ACAGCGACGA 240
 CTAGCACCTC GACGCAAGTC ACTATTATT AACAGATTA TGTATATAAG CACCCCGCCA 300
 10 TGTCATTGA ATGGACCGCA TATGTAACAA AAATCGAGGA TGCTTCCCTA TCGTCTACAA 360
 ATCTCAGGAT GTTGAGTACC TTTCAGGTGT CTGACTGAAA TAAATGTTGA ACTTTGATAG 420
 TACTTTTATG TTGAAAAAT TTTAAATTT TATTGTATGG CTGTACCAC GAGTACTCAT 480
 15 CTTCAACCGA CATTACGGGT ACCTGAAGAG CTTATCTATC GATAACATGG CGACTCAGGA 540
 GCGGTATTT ATCGGCCCA ATAGGCAGAC GAAGGTTCG GACTTCTATT TGCCGACCAA 600
 GACTGTCCAT TCGACTGGAA AGTGCATCCT CTATGGAATC CGTTGGACGA ACNCATGCG 660
 20 GNGTTTNGC CATTGAAGGC CNCAACCGA GNTACTCGN AATTTATGG GCNAAAACT 720
 TTTGGTCACN CTCNCGAAG CACAATNCTT CGCAAGNAA NAAAAANGGA ATTGNCNAT 780
 TTGGAGCCN AAACCTNTAC NINGCNTGGN GNGGGTANC TCNNNTTCN ANGTCTN 836
 25

(2) INFORMATION FOR SEQ ID NO:314:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 850 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1254UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:314:

40 GATCTCTGGT ACCCCAGCAG CCTGGCGGG GACGTGGCAT TGGTGACTTC TCCCCAGGT 60
 AACCGGGTGT GCTCTAGCC CCTTCCCAC ATTGAAGTA AGCTTGTTAG CGGTACTCCG 120
 CTTCAATTTT TGTCGCCGT CGACCGGTAG CGTCATAGTC CCGCGGTGTG GCGACCGCG 180
 45 GCGCGCATC ACAGGTATCT ACAGTTCAAC GCGCGGTG CGATCCCAAG CGCAGTCTGG 240
 AATCTCGAAC GGTGCTACAA AGAACGGATG CGTGCAGAT CGAAGCTATC GAGAAGGTGG 300
 TGGGGGAATT GAGTGAAAGT ACACGAAGC AGGGTGTGAG ATCTGTACC TCTGCATAC 360
 50 AGTACGAGAA GGAGTCGGG ACGGTGTTC GAAATCAGG CAGTGTCCAG TGCGGGGAG 420
 CGTGCAAAG GAACTCGGA ACAATCGAC GGACCTACTG CCAGGTCCAA GCGCTTTCCA 480
 CGGTGTACA GCTAAGATGG TGACTGGCA ATAATTTGTC ATGCTGTAT TGTGTGTG 540
 55 ACGATTATCT ATTGGTTCA GCGTTCATA TTAGGTGG CTGCAAACGT GGTGACATCA 600

CGATTGCACT GSTATATATGA TOGAGTAATT CCATACACT GAAAATCMTA ATAATCAATA 660
 ACCCATGCCN CNACTCGNCA ACTTCNCCNC TTONGCTCCN GGTGAAATCC CCTTCACTAN 720
 5 TTTTTTTCAT TGCCCATTTN ACCGAACTTT ACNAATNATG CAATGANAAC CCCCCCTCCC 780
 AAACCTANAT CCTTTTMTIN NGGGTCCCN ACNGTTNCCN TTCNGNCA NCCNCTTTIN 840
 ATTCCAANAC 850

(2) INFORMATION FOR SEQ ID NO:315:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 827 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1255RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:315:

GATCGTGTG TCAGGGTGCA TTGCAGTGGG CCTGAAGACG GTGGGGACTG ATCGGGGGCC 60
 GAAGAAGCTG TGCAGCTAC AGGCGATTGC GGCTGTGGGT CAGGGCCGGC TTATTGCGCG 120
 GTGGGACTCC CTCTTCAGAC CGTTCACGA GAAGATTGCG CAGATTTTGT TGACACGGAA 180
 30 CGACATAGTT GACTGGTGGC AGTATAAGAA CGGCAGAAAT ACGTTCCACG AACTGCTGGC 240
 GATGGGGGTG ACGCCGATTG TGAACGAGAA CGACAGGCTC TCAATCAGCG GAGTGAAGTT 300
 TGGGGACAAC GACACGCTGA GTCCGATCAC AGGGGGCTG ATCGGGCGAG ACTAAGTGT 360
 35 CCTGATGACG GACGTGGACT GCTTATACAC CGACAACCCG CGGAGGAACC CGGATGCAAA 420
 GCGATCTTG GTGGTGGCG ATCTGTACAC GGGACTGCCG GCGGTGAACA CCTCTAGTGG 480
 GTCCGGTTC GGTGTGGCA CCGCGGCAT GCGACGAAG ATCCTTGCTG CAGACCTGGC 540
 40 AAGGAAGCC GGTGCATAC GATTATTATG AAGAGTGAGC GCGCGTCGAC ATGGTCCGA 600
 TGTGGAGTT CATGGAATGG CCGAGCAGTG CACTGCAGTT TCTGCTGACG CGAGACTTGC 660
 AGACGGACGA GCTGAATTG TTGCAGAGCA CGCGTCCCA CTACACAGC NCTTCTGCA 720
 45 ACTTTGCACC TCTGAACNA CNGATTCTG ATCCNCGTC TGTGACNCG NCTATCTAA 780
 CAGGGGCTNA GGGCCCCCA AACAACTGNT CCCAGTTNT CCGTCAG 827

(2) INFORMATION FOR SEQ ID NO:316:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 836 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: 1256RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:316:

	GATCTAATGG CATTCTCCCT ACCAAATGGG CCCAATTGTA TATTGCCGAT CTTCCTACAG	60
10	GGNACTGGTT TAAGGATCCA GCGAAGATCG GCAGAGTTCA GCTCTTGGTA TTGCCGACAT	120
	TGTGTGAGAA ACACCAGCTG CAAACTTGAG GCCATATGTC ACTGTCAATCA CAGGTCCACT	180
	TATCCGTGTT GTTGGCGAAA GGTCTAGCAG TGATATTAAG GCTGCTATCC TATATGCOCT	240
15	AAATGTTCTC TTTTGAAGG TTCCACAATT CCTGGGGCCA TTCATACCTC AACTACAGAG	300
	AACACTTGTT AAATCTCTTT CCGACTCAAC CAATGAGACC TTAAGATTCC GGGCCGCGAA	360
	GGCACTAGGT ACTTTGATAC AATATCAACC AAGAATTGAC CCTCTGGTGG TGGAGCTAGT	420
20	AACAGGCGCT CAGCAGGCCA CTGAAAGGGG AGTAAGGACG GCTATCTTGA AGGCATTGTT	480
	GGAGTTGTC TCCAAAGCTG GCAGCAAGAT AAGGAAGCT TCCAAAGCTA ACATCATTAG	540
	ACTTGTGGAG CAAGAGATGG CATCCACAGA CAGCAAGTTT GCAGTCGCTT ACCGCAAGCT	600
25	TCTAGGTGCA CTTTCTGAAA TCATGTCTCC GGAGGAGGCG CAGACCATAC TTCACGAAAA	660
	GTGCTTGATC CAATTTTGAA GAGCACNGT AAATTGCCGT CNGACCCAC TCTATCTTNC	720
	TACCCCTGTA CMTCTCCCG CCATNCACCN AINTTGACTN TINGTGGTGC ACGATCNEN	780
30	ATCCTTCNN CACAAGTTT CCMVINGAT TCCCCCNAA NGAAAGTNAV CCCCCC	836

(2) INFORMATION FOR SEQ ID NO:317:

(i) SEQUENCE CHARACTERISTICS:

35	(A) LENGTH: 841 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1256UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:317:

45	GATCAACTGG TCGGGCGGGC TGCAACAGC CAAGAAGAGC AATCCTTCGG GGTCTGTGTA	60
	CGTGAACGAC ATTGTCTCGG CGATTCTGAA TCTGCTGGC TACCACCCAC GCGTCTGTA	120
50	CATTGACATT GATCTGCACC ACGGAGACGG TGTCCAAGAA GCATTCTACA CTACTGACCG	180
	CGTGTTCAGG GTCTCGTCC ACAAGTACAA TGGTGAGTTT TTTCCGGGAA CCGGGGATTT	240
	GGATGAGATC GGATGCTCC GCGCAAGCA CTTTTCGCTG AATGTGCGC TCAATGACCG	300
55	CATCGATGAT GATTCTGACA TCAACTTATT TAAGAGCATC ATAGACCCGC TAGTTACATC	360

ATACAAGCCA ACAGTAATTA TTCAGCAATG TGGAGCAGAC TCTTTGGGGC ATGACAGACT 420
 GGGGTGTTTC AATCTAAATA TCAGAGCCCA CGGCGAGTGC GTCAATTTGT GAAGTCGTTT 480
 5 GGGATACCTA TGCTATGTGT CGGTGGTGGG GGTTCACACC CCAGGAATGT GTCGGGGCTA 540
 TGGAGTACG AGACAGGCAT CCTTAATGAT GTGCTCTTAC CTTCAGATAT CCCAGAAGAT 600
 ATTCGGTTC GCGAATGGTT CGGTCCAGAC TATCTCTGCA CCGGTCTCTT GGATGANNTN 660
 10 TCCAAAATAA ACNCCCAAAT TACTGGANAA NATACGTCG GNTTTAAAAA NTAAATTNTG 720
 CNGGGGCCAT TTTGNCNIGA NNCGAATATC CTCAGATTT CGGTTTAACN AAAAAAAAT 780
 GATCGAANA ACCAAAAAT NCCTTGNTAA CANINAAGAA NMTTGCCGN ACTINTTANT 840
 15 C 841

(2) INFORMATION FOR SEQ ID NO:318:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 841 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1257RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:318:

30 GATCACTGGT GTCACCAAGG GCTACAAGTA CAAGATGAGA TATGTGTACG CGCATTTTCC 60
 CATCAACGTC AACGTGTGCG AGAAGGACGG CGAGAAGTTC AITGAGATCA GAAACTACTT 120
 GGGTGACAAG AGAGTTAGAG CTGTGCCTGT CAGAGAGGGC GTCAGCGTGG AGTTCCTCAC 180
 35 CAACCAGAAG GACGAGATTG TTTTGTCCGG TACCTCCATC GAAAACGTTT CTCAGAACGC 240
 TGCTGACATC CAGCAAATCT GCGGTGCCAG AAACAAGGAT ATCAGAAAGT TCTTGGACGG 300
 TATCTACGTT TCTGAGAAGG GTGTCATTGC CGAGGAAGCC TAAGTGCCCTT ACTGACCGTA 360
 40 TCTTGATAAA TAATATGAGT ATTATGTAAT CAAAGAAGTC ACTGCTTTTTT AITGGTGGTG 420
 TTTTCGTCAA ACGCTCTTAT TAGCGCCGGG GTTAGAGTGT GGAATACTG GCGTTATATG 480
 CTTTAGAAGT TATGTTAAGT AAATTTAATG TCCTATCAGG GCCACAGCCT TAGCAACTAG 540
 45 GTGCAGGTAC TCCTTTAGCT TGCCACTGTT CTGGAACAGA AGATATATTT TATCTGTCTC 600
 GTTGGCACCA TCGTAGACAG GTTCACCGCT TCCTTGCAGG AACGATGGAA CGCCAGCTTT 660
 CCGGGTGGG AGTTATAGGA ATTATGGATT OCAATGACAG TTGGTGTGTT AACNANCTG 720
 50 ATTTGTCCAN TTTCCCGTCT CNGAAGCTNC ANTGNITCCN TGACCNANCA AACCCGGGAN 780
 ACCCCTAGGG CTGNVAGGCT TGAATGCNTT AAAANANTTT CNTTGANAAA NCATTGNTAA 840
 55 T 841

(2) INFORMATION FOR SEQ ID NO:319:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1257UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:319:

GATCGGGCCG CTCACACACT CAGGTACCTC AAAGGAATAC GAGTTTGTGG CAAGCTTCCC 60
 GTGTCCAGAT GCACAGAAAA TCGATATGTA CATCAAGGAG CCGCAAAACA AGTACCTCTT 120
 TTCCGGACAA GAGTACACTT TCCAAATCAT CTGCAGCCCT GCAGACGGCC TCACTCAOGA 180
 TCCATACGAC GCGCAAGCCG CTGCGCCAAA TGTGATAGTC GTCCAGTCCC CATCCGCCAA 240
 GATCTACCGT CTGAAAAAGG CGGAATCCGA TGTGGAATTT GCGGTATGGG AAGCTAGGCT 300
 AAAAGTGCAC GAGCCAGGCG TCTGGCTGGC CCTAATTAC TCTGAGGCAG GTGCTGGTTG 360
 GTGCACTTTC GCGAAGTGGG TCTGTGTTTA ACACCTAGAT GCTACACAGT CATCCACCCC 420
 ACGAAATTAA TAGATAGTAC GGGTACATAC AAGCCCTATA GTTCTTTAAT ACACCTGCCC 480
 TATATTGAAT ATGTCTACGA AGTATAATGG CGAGGCACCT TCAAAATGGG TGAAAAAATA 540
 TGCACCACTT CGAAATCCAT GTTTTATGAG CTTAACAAC AGTGGTTGTT GAAGAACAAT 600
 ACGCTGCCAA GGAATGTCA GGTACTGGAA CCAGCTCTCA ACAGATTCTT AAAGATTGCC 660
 AGTGTGTGTA CCGAATCCAC GTTCGCTGAA TGCTGGGACC GACATCAGAC CTTGCATTG 720
 GTACAAAATC AGTCTATACG GNGAGCGCCT GINTGCCCA AAAANAANA CCACGGGAGG 780
 ACNCATTGTC ACTTGAACNG AGNCAATGTG TNCNGTACG CGGNTTTTC GNTTCAAGCC 840
 CCAAGGACAA NAACGC 856

(2) INFORMATION FOR SEQ ID NO:320:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1258RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:320:

GATCCAACTT TCTACTAGGG TATTTTTCCT TACCTCAGCC TGCAATTCCA TGCCATGGCT 60

5 AACCAAGATA ATATTCTCCT CCAGTAGATC CATATTCTCT CCGACTTCG CACTAATCGG 120
 GATGACTGGC ACGTTTCAC CCAGATCTTC AGCATGTATT TCATGCTGTA GCAAATCAIT 180
 CATTATTTTG TTGATCACAG TTTCCTTTTC TTTTGCCGAC CGGAGTTTGT CCACCTTGGT 240
 TATGGCGACA ATCAGCTCAT TCCCTGATTT TTTGACATGC TTAATCGCTT CAATGGTCTG 300
 GGGTTTAATT GAGTCTTCGG CAGATACTAC CAAGACAACG ATATCGGTAA TATTCGGCC 360
 10 CCGTTCCCTC ATCTTCAAAA ATGCTTCGTG CCCGGCGTA TCCAAAAACG TGATCTTCGG 420
 CTTCGAAACA GGTGTGACAA CCTGGAAACG ACCAATGTGT TGTGTAATGC CACCAAACCTC 480
 CTGGGAAACG ATGCTCGACT TCCGAGATA GTCCAATATG GTGGTTTTCG CGTGATCAAC 540
 15 GTGACCCATA ATGTCACAA CAGGTGGCCG GTCTTCAGG GCCTTCGGGT CTGCAGGCTG 600
 CTTCATTTCA TGTAAACGT TCTCCGAGT GACAATTCCC TCCCGGAGG CAGTTGGTAG 660
 CTATCTCTC CCAATATAGC TCGATGTAGT CTCTGGAAA TATGTAGTCC GCCTGGCTTT 720
 20 TCAA 724

(2) INFORMATION FOR SEQ ID NO:321:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 853 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1258UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:321:

GATCCTGTTT ACAACTAAGT TCGCATCCCT ACCAGGGGAA AATATGAAAT ACCAAGTGT 60
 GTATTCCGAA CGCTAGAATT CTTGTACAAA AACCGCGCA TTCAGGAAGA AGGTATATTT 120
 40 AGGTTAAGCG GATCCAGTTC TCTCATAAAA TCTTTGCAGG AGCAATTGA CAAAGAATAT 180
 GACGTGGATT TGTGCAATTA CAACGATAAA GTTCTGTCA CACCAGGAAA CGAAAATCAG 240
 GCGGCTCTCT ACGTCGATGT GAATACCGTT TCAGGTTTAT TAAACTATA CTAAGAAAG 300
 45 CTCTCTCATA TGATCTTTGG GGATGCTGCA TATATGGATT TTAAGAGAAT CGTGGAAAGA 360
 AACGGAGATG ATAGCAAACCT AATAGCACTC GAGTTCAGG CATTTGGTTAA TTCCGACGA 420
 ATTGCCAAAG AATATGTCGC CTTAATGTAT GCATTGTTG AGTTATTGGT GAAGATCACC 480
 50 GAGAACAGCA AATATAACAA GATGAATCTG CGGAATTGT GTATCGTATT TTCCCAACG 540
 TTGAACATAC CCGTGAATAT ACTACATCG TTTATCACTG ACTTTGGCTG TATATTCCAA 600
 GATAAGGCGC CGATGGAGAA CGGACACGGT CAACATACAC ATCCGCAAT TTAGTTCATA 660
 55 CTAAGTAAAA TACTATTAAC TTAGAATATG TGATAAGTGT TTTAATTACN TAACTTGGTA 720

TTAGTCQAT TGINTAATAA TTGAATATGA ATGONTTATT NTCTCTINANT CAATNIGTCA 780
 CGATTGGATT TACACNGCG TCTGTAANGA CNTCTAGCTT GGTCATCCCA NTCTCANTT 840
 5 NCTCCGCTT NCA 853

(2) INFORMATION FOR SEQ ID NO:322:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 836 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1259RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:322:

GATCACACGA ATATTGCGGG AGTATTTCTC CATCGTTCCG CGCAAGCGG CCTGCGCATC 60
 GCGCGTGAGC GATTGGGCTT CGTTGATGAT CACACTCTTG TACCTCCGG CTAGCCCCCTC 120
 25 CGATCCGCTC TGGAAATCCA CCTGCTCCAT CTGCGCAATC TCCTTCAACA ACTCTGAAT 180
 CACGATCCGG TCATTGTGCC CCATGTGCTT CGGCGTGATC TCGATGTGGT ATGGGCTGCT 240
 GACGACGTTC AGCTCGAGCT TCTTGTTAGA TGGGTAACA AATTGCCGCA CATCAATCTT 300
 30 TAATTGTGAT ACACCTGCTC CAAAGATACT TCGAAGGAGC CCCATGCACC GTGTCTTCTT 360
 CCCACTTCCA TTGGGCCCCG AAAGTAAAT ATGCGGCAGG TCCTTGGCAG AACCTGCTAA 420
 AGCCTCGAGC TGCTTGGTAA GCGATGCCGT ATGTGAAAGG CTGGTCAACG ACTTGGGTCT 480
 35 ATGCTTGICA ACCCAAAGTG ACATATTCCT GTGTATCTG AGATGGGCTT TTGTGTGTTG 540
 TAGGGAAGGT GAGCAATTCA GTGCAATTA AATTCATTTA GATTGGGTT TTAGCACAAA 600
 ACGATATGCC CTCAGTAAGG CCAGAATACA TACAGTACT TGGCTACTA CTTTGGACAG 660
 40 AAGTAAAGCT CTCACGAGAT CGCTGAGGA GATGGCATGT ATATAACCCN CAATTACTCT 720
 GATGCNAAAA ATGTTGCACC CNTGCCTTTT TANTTONGTC GACAACTANN AGAGCCTNTA 780
 TONAGTCCAA ATTTTNCCAA ANCTGGGAAA ACCTTINCC GTGGTNTATN AACACA 836

(2) INFORMATION FOR SEQ ID NO:323:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 851 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1259UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:323:

5 GATCACCCCC CAAATCAGCA ATAACTOGAA AACTGTGCC AGTACCTTTC AACGGGCATG 60
 AACCTAACGG CGCGCAGCG TCATGGGTAC TCGACTGCCT TTGTATCCCT CACACTGCGC 120
 CTCTTCGTGT GCGGCACGTG CTTGTTGATG GTAGCGGCGC GCGCCGGTGG ATCTAAGCGC 180
 10 ACGTCTCTTT GTACGTGGGT CTCACGTGCA CATGTCATC CATCCGCTTG CGAATGAGTA 240
 GATCAGCAGG GAGACCATGC TAGGCAGGBC CGTTGGGCGA GGTGGAAAGG TTGCAGCATT 300
 GAGGTGGAGC AGCAAGATGA CATCACAGGA TAGTAGTCGG AAGAAAGAGC TATGTGCAGC 360
 15 GTACAGCGTA GTGGATGAGC GGGTTTCGGC CAGCATGGAA GAATGCGGAC GTAGAAGGTC 420
 GGAGGTTCTA TTGCTTGGCG TTCTTAAACT GAAACCTGCG TCGGATGTGG CGATACTGTA 480
 CGAAGAAATG GCGCTCCGC ACTTTGGAGA GAACTACGTG CAGGAGCTGG TGGGGAAGGC 540
 20 AGCAGAGCTG CCGGGCGATA TCCAGTGGCA CTTTATCGGG GCGCTGCAGA GTAACAAGTG 600
 CAAGGACCTG GCGAAGGTAG TGAAGTGCAT GCGGTGGAGA CCATCGACTC GCTAAGAAGG 660
 CCGGAAGCT GAGGAGGCGG TCGGAAGTTC CAGCGAGGC CCGCATCTG TGTTACATTG 720
 25 AGTGAACNCT CTGCAACNC AAAGNNGTIN CNGATGAGC NACNGTGCAC TGTGATTCTT 780
 CTNCCAAAAC AAACCTTCCC TGCCCGACGA TAAATGGTCC TGGACCCCTC CCGCGAAGGG 840
 AACCGATCCC C 851

(2) INFORMATION FOR SEQ ID NO:324:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1260RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:324:

45 GATCCTCAGA GGGCCCGCAA GAAGCTTGG CCGAGACAGT AACGATGTTT GCGAGGTTG 60
 TGCTGTATCA CAGTTGAGCT CTAGGTTGCA CTTTCGGAAA GAGCGCTACC GTAGCTGCAT 120
 GAAAAAAAG TAAGGTCAT CAGTTTATGC AGAGGCAAGA ATAAGTTTGG TAGAGCCTTA 180
 50 CTTCAACAAGC GTGGCTCTAG CGAGCCATAT TATTCTATGG CCGGCAAGAG AAGACCGAAG 240
 AAGGCCAGAG CTCCATATCG AAAGTACGTG GCGGTCAAG GGTTTGTGCA TACCTACGGG 300
 GTTTCAGTA CTGAGAGTTC AGCACAGAT GAAAGCGTT TGTTCGCCG AGACAGTGGG 360
 55 GTGCAGGTAT CTGACGATGA TATTGCGAGA CGACTGTGTG ATATGACACT TTCCGCAAGC 420

GCAGCGTTTG CCGGTGGAGC GGCACCCATA CCGTATCCCG GACACTCAAT GGTGCTTCCC 480
 TGGGAGCTGC AGTTTTTGGT TCTGTCCAAA TGCAAACTA TTGAACACA CTTCATGCAA 540
 5 GTGTGCAGGC GGTGGTATAT CATGTGTCTG CCATTGATCT ACGGAGCACC AAGGCTCTCC 600
 AGCAAGACTT CTACAAGTTT GTGGAGACAC TGGTGGCAGC CCGTAAACAG AATTACCGGC 660
 AATATTCTCT GATCTCGACC GTCCATGAAT ACCNNANCGC AAACCTTTTC CAAGGTCTCT 720
 10 CCGTTGCTCC CACCCCTGAC ATTCCGGCCC CAAACACTCG TATCCCCNTG AATCTTACGG 780
 CNINCCNNIT GCAACCGATT TGTCTNTTCC CAACGTTANC GAACNNNTG AG 832

(2) INFORMATION FOR SEQ ID NO:325:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 846 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1060UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:325:

GATGACCCGG CCGCCACGC CCGTGCCGTG GGTGAAGTCG CCGCCCTGGA TCATGAAGTT 60
 GGGGATGAG CCGTGGAACG TGAGTTGAT GTAGCCCGCG GAGGCGTCTT GGCTCTTTGC 120
 30 GAGCGTGAGC AAGTTGGCGA CCGTGCCGGG AGCGACGTGG CCGAACAGCC CGAGCAGCAG 180
 ACGGCCCACT GGCTCGTGGC CCGTCTGCAG ATCGAAGAAG ACACGGTGTG TGACGGTGGG 240
 GTCTGGAGC GCGAACCGGC AGAGCAGGCG CTGTGGGAGA ACGAAGAGGA OCTGCATTGG 300
 35 GCGTGGCTGC GGGAGGCGCG GGACGCCGCG GGAAAACGCC CGCTTTTATA CCGGAAAAG 360
 CTGCTTCGGC TACGTAGCTA GAGATACAGA GCGTGGACT TGAGGCTCTG CAGCATCAGG 420
 CCGTCCATCA TCTCGGGCGT CAGCACGTCC GAGTAGCCCG CCGTGGGCGC GTCCAGCGCC 480
 40 GCGGTAGCG CTGGCGCAGT GCGCTAGAC GCGGTCTGTC CACTGGCGCG CTGCACGGAG 540
 TTCTGCTCCA CCGGCACGAA GCGCGCGGCC TGCCAGGCT GGAAGCGCGC CAGACGCTGA 600
 TCGCGCCAG CCGCGCGGAC AGGTGAAGC CCGTGGACAG CAGGCGGTTT TGCAACAGCC 660
 45 TGTAAGCGGT GCGCGCTGTA CCTTCCCNNA ANANGTNTAT CTTGACGCAT CACCGTTCCG 720
 CCCCCGCTGC TTCCGAACCA AATCGGTCC NCTTAACCAC CNITTCANGC CNTCACTTGC 780
 AONCTGNCCA CACNCTTNC GGTACGTCC CAATGCGGTC TCCCGGGGC GCTTAGCNGG 840
 50 GCTCGT 846

(2) INFORMATION FOR SEQ ID NO:326:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 835 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1261RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:326:

GATCATAAAC GAAGAATTCC TAATTAACAA TTTGTCTCTC ATGTACTTCC TCAGTGAGAA	60
ATAGCGATAT AATCATTAGA AAGCTTCCCC GAGCACTTTA GCAGCACCGC ATGCCAGCAT	120
AACCCCTGG ACTCAGGGCA GTATGCCGC TGGCACTCG GCACCTCATC GCAGGCGAGA	180
CAGTCCACCA CTGGAGGAC CGTAGTATTT ATACTTTTCC AGGTGAAAA ATTTTCGACC	240
GCCCCACGCC GCAGAGGGCT GGACGGGCAT TAGGGCTCAC AGGGTTCGAC TGCCACTGCT	300
GCCCCAACAG CGCGCGCAT GTAACTTGAA ATGATATATT ATACCTTCTG ACTACAATGT	360
GAATATACA AAGGTGGCTC ATAGGCGCAT TGCATTTATT CAGACGCAGT AGCTCTGGTG	420
TAGATAGCCT GCTTGGAGTG CTTCGAGATT GGCTTGATGA TGCCCTCGGT CTCCAAGTGT	480
CTCAAAGCAA CTCTGGCCAT GGAACCGCG ATCTTCAATC TGTGACCAA CACGGACACA	540
GAGACGTATC TGTAGGTTGG GACCTCCTTT AGGATTCTGT CAAGCTTGTC CTGGTCCAAG	600
ATGACGGCGT GCTGGGCGTT GTCTTGTTGG GACTTCTTGG ACCACTTCTC TTGGACTTCT	660
TACCACCGGC CATGGCGCGC GCGCTTCTG GCGCTTAAAN AINTTGTITT TTGTGCATAT	720
ACNGTGTGCC CNTATACTGT CCGCACCCT GGCNTCTCTG CGNAGGGTGG TGAGCTTCCG	780
TACTCCNCCC CCTACCCNCC CCCCNNNGNT TGTCNTTTC NNCNNNCTTA ANICT	835

(2) INFORMATION FOR SEQ ID NO:327:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 852 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1261UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:327:

GATCTGCAAC AACACCATTC CATCGGAAG TCTTTCCAAT TTCTGTCTTG GAATATTATG	60
AGGAAGTTTG AGAAGCATAT TGGGAGCGAT GATGAGGAAG ATCCCTTCCA GATCAACGAT	120
TTGGACGAGG AGAAGACCTT GCGCATGCTT TCTAACCAAG CCTGTTTCTT CCGCTACCTG	180
ATGGCCGAAG GTCAGGTAAA GTTAGATGTT TTAAACAATG TATCCATTAT GGGGTGAAC	240

TCTGACGGGA GACTTTTCCT AGAGAATCTT CTATTTTCACT TTCTGTTGOC CTCAGCCAAA 300
 AAAGCAGAAA CTAAAAAGAA GGTGGGGAAT ATCAAGGAAT GGTCTTACAG AGATGACTTG 360
 5 TTGCAGGGCG CCCTGTGCA TGGGATCCAG GCGGAAAATA AAAAGATAAT CTGCAAATCG 420
 CTCAGGATGT TTATGAGGAA TTTTAGATAC ACGAACTATA TTCTGGTCA GCTGGCTCG 480
 AAGGAGTATC AACGTGACAT GAGAAGGTG GACTGGGCGG TTAAGCGTTT TTTGGAACCT 540
 10 ATAGATGAAG AACTGGATAG TGCAGATTGT GAAGAGCTTC TTGTCCTAG TCTGAATGCA 600
 TATTACGTGT AACATTGAAC ATACGTACTC TATATTAAAG TGGTAAAGT GATGAGAGTA 660
 TGACGTCCNT GCTTTTATTG CATACTACTT NTGAATTACA GTTATTGGT GAATGACNAC 720
 15 AAACANGTTC CATTACTTAC TTGTTGACNT CGCNCGACC ACCACCCGCG CCACACCTTT 780
 GTTACCTTA TAAAAATCTC CACNTCCGNC GTATANAGCC TNAANAATTC NITCGCTCAT 840
 GCGTTTGA CN 852

(2) INFORMATION FOR SEQ ID NO:328:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1262RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:328:

35 GATCTTTGCA CAGCTGGTA ATGTTTCCA CTAAGTGA TTTTTCCTTG TCTAGATAGT 60
 CTGCCGTAAA GACTCCCGAC GTGATCGGCC GGGCAGGAC GCGCATCTGC TCCAAGGCG 120
 TCACAAGTTT CAGGTTCTGT TCCAGAAAGC ACTCGGAACT TACTGTCTATG GTTACAGGAT 180
 40 CAGTTACGCG AATTCCTTCT ATATATGAAG GCTCGATACC CTGAGCCTCC AATTGTGTAT 240
 TCACCTGCGG ACCCGTGCCA TGCAGCACA TGGATAGAG CCCCACATGG TACAGGAACG 300
 CCAGGCATGA AGCCAGTTCC GGCAGTTGT CGCTGATGAT GGCACCTCCA ACTTTGATAA 360
 45 CCGCGAATTG CTGCTCCGAG ACGGAAGTAA AGTACTTCAG GTACTGTTCT ACTTCAGCT 420
 TAGAGCCAAT ACTGTTGAGA AGCTGGATCA CGGTGGACCG TGCTGCAGA GACCCAACGC 480
 CCTCGTTGTT CCGGTTCTTT GCATAGTTCA GCTTCTTTAT AGGGCAGTG CTGAACAATT 540
 50 CCGGCTTGTA TGCGGCACGG ACAGCCCATG GGTCCGGTT TTAGATCCTG CTACCAGCGA 600
 AGCTCTACTA AACAGTAGAG AGTGTCCGA AGCATCTTG TACTCCGTTT ATCCAGTCC 660
 CCGAGTTCT AGCTCTGAA AGCAGTCCGT GTGGCTTATA CCTAANTTC TCTTGGTTTC 720
 55 CATAACCACA AACCGTCTCN TTGNCNTCC TGANTTTCAA GACCCCNANA TTTTCACAAT 780

TTNTGCAATTT NTCNGNGNA AGGGTGCNAT TTATNTTGC ATNCNTTAA A

831

(2) INFORMATION FOR SEQ ID NO:329:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 865 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1262UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:329:

GATCACAAGC TTGTTGAAGC CAACTGCTGA AAATGTCTCC TACGAGAAGA AACGATTCTT	60
TCCACTAGGA GAGGTGTGGC AAATTTTAA AGGAGCCAGT AAGAGCCAGA CTAGCCCCAG	120
CAGAAGCCCC AGTAGTTGTT AGGAAGCATT CCAGAGCGTA TACGACACTT TGAAGACGGA	180
CAGCGTTTCA AGAAGACAGA GACAATCAAC ACCAAACAAA CATGGAGAAT CCTCACGTAC	240
ATGATAATTT ACAACACATC CAGGCGGTGT TATCGAACTA CGACACATCG TTCTCTCGG	300
ACGATGAAGA GGACTACTGT CCGCTCTGCA TGGAGCCTTT GGACATCACC GATAAGAACT	360
TTAAGCCGTG TCCGTGCGGG TATCAAATCT GTCAGTTCTG CTACAACAAC ATCAGACAGA	420
ACCCGGAGCT AAATGGCGGG TGTCTGCGT GTGGCGGAAA TATGATGATG AGTCGGTGA	480
GTACATTGTT TTGAGCCCCG AGGAGCTGAA ACTTGAGCGA GCGAAGCAGG CGCCGAAGGA	540
GCGCGAGCGC AAGCAGCGCG AGAAGGAGCG AAAGGAAAAC GAATATGCCA CCGCAACATC	600
TCGCCGGCAT GCGCGTATC CAGAAGATTG GTATACGTTA TTGCGCTGAA CCACCCGTAC	660
CGTACGAGGA GGTGTGTGCG CTGTTGCGCT CGGACAGTTA CTTTGGCNGT TNCGGANAT	720
TTACNNATCN TCCGTGAACC GCAAAAGGCC CCATGACCCC NACCGTNTGG ATNTNTTTC	780
TTCCCGGAAA AAGAGCGGCC CNNTTNCGCC GTGGATGNT TTTNIGANG CGNGGTGAGG	840
GGGTACGACC NATNTGCTN TTTTG	865

(2) INFORMATION FOR SEQ ID NO:330:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 832 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1263RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:330:

GATCGCGCCA TTGCTTCTG AATGGTTCT CACAGAAGGA TTGTTCTACC AATGGCATT 60
 5 GTTCAGGAG GTCTCGCTA CTAACAGAAT CGTCTGTGG AACTCTCTT AGGAAGGTGA 120
 ACAGTTCATC TATCCTTTCA AAATGATAC TCTGAAAGG TTCATTGCG GCGTTAAACA 180
 TACTAGATGC AGTCATTAGG GCGGCACTT CTGTTAAT ATCGTCAGCT ATCCTTTT 240
 10 GTGCTTCTT CTCATTTC TGGGCTTGA ATAAACCTCT AGCTATCAA AACTCAATTA 300
 GTATCTTCT GACCTTAGTA GTGGTCCGT CTGTTGGCT AGTCATCTC ATTAAGTGAT 360
 GACGAGCTT TTGCACACT TTGCAGAAA ACACAAAAA TATTGAGT TGGTTAAGG 420
 15 TAAATCACT AGGAGGAGT CTGAAAAT GTGTGATATC TGGCTGAGA AAAGAAGTAC 480
 CGCAGTCAAT GACAAATGAG AGAGCTTTGG ACAAGCCATT ACCAACTCAT ATATTGGATA 540
 AATAGTCAA TTAGTACAAT ATGATAGGIG AACTCTTCC AATGTGTCAT TCCTACCAAG 600
 20 CAAAGCAATC ATATTTAATA ACCTCATCTG TCATCTGAGA ACATTCAACA ACCCTATCTT 660
 TTTAGTTGT TAATTCCTCA ATCATATAAG TATGAATGT CCATTTTGT CACAACNATC 720
 CNCTTCTGAT CNNGGANATC CTGATTCAAC CTTATCCCN CCGAATGA ACNTGGCCAA 780
 25 NGANATTNIN GTTTTCCN CTGAAANCT CNAAATNCAT ACCCGCTTA CC 832

(2) INFORMATION FOR SEQ ID NO:331:

(i) SEQUENCE CHARACTERISTICS:
 30 (A) LENGTH: 851 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)
 35

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1263UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:331:

GATCTTAAAA GCTGGCTCC GCAGTAGAC CTCTGCGCA GAGGCTGGAA ACCTCAACTA 60
 GCAAGTCGCC ACCCGAATCA GATAAGCACT AGAGTGTTC CAGTAACAGA GGAAGGATC 120
 45 AAGGAAGATA GTAGAAGAGG AACTGCTGC CAGGCTTGAT CGGACAGAGG GTTTAGCTTT 180
 CTGTGAATT TTAGAGTTTC GGGCTTTGT TTAATCTGT TCATTCTTTC GTGTAAAGAA 240
 GCTGTTTGA GGCTGCCATC ATTTGCCAGT CGCCAGGTAG GGTATTGCAG GGCGACGAG 300
 50 TCGTGAAAC AGAGCAGGAC CGAGAAGCC GATAGACAGG CGTTTGTGTTG TAAGGGTGA 360
 GAGCTGAAGC AGGTCAAGAG GCGGCTTGG GCAGTTGTG CGGCGGGGC AGAGCACAGC 420
 AGGGCATCCG AAGAAGGGG AGGTGCGGA CAGGAGCGCA GCGCGCGAA CAGGGGGTG 480
 55 TGATGACGAG CGAGACGAAC AACAACAAG CGCGAGCTC GAACGGGGG CAGCTACGC 540

CATCGGGGCT TCCGGGAGC TGGTTTACGA CGCCATTCTT GGGGGCTCGA CCACAGACAG 600
 ACAGCAGTAC TCCAGAAGT TTCCGGAGCG TGTTTGGCGG TGAGGCCAGC GGGCCAGAAC 660
 5 TATTTTTCOA CTTACCAACC GGGCGNAATG CCCCCACTT TTTTGNCCAA ANACCATTTT 720
 TCNCCAGCN CCCNCCCTNC TAAAACCATT TCTTACNGGG NCGAATGAAA TGGGTGTGNT 780
 TTCCCCCCCC NGAGAACACA TTTTTCNCA CTGTGACCCG ANTNNITTANT CTCCCNAAAC 840
 10 TTATTTTTC C 851

(2) INFORMATION FOR SEQ ID NO:332:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 801 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1364RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:332:

GATCTCGTTT TTGTAATGCT CTAGCTCATA TTGTGTGAAG GAGAAGGGTG AAAACAGCTC 60
 CGAGGCTGCA ACTACTGCAA AGAATAAGA GCAAAATATG GCACATAAGA TGTCTTCCOA 120
 30 ATTCAATTGG TACAGCTCTA ATACTGTGAA CCTTAATCT CGGGTAGGCG CAACAGTTAT 180
 GGGCCAACC ACGTTAAGT GATAATGATG TAGGTACCCC GGTGAAAAA AGAGTATGTG 240
 GAACCGCCCA GCTGAACCA GCGATGAGA CATGCCAACC ATATCCAAGC ATACTTGACC 300
 35 ATGATGAGCG AAACTATCT AGCATAGTTA GTCTTGACG TGAGACAGGC TTCAATCGTA 360
 AACCTCCAC CTTCACTATT GTCAAGTGAG AGGCAACATA ATTGATCTTG TGACTACCAC 420
 CCATACATTT TGCTACCACC CATACATACT AATTAAATGGG GAAAATAGCG GCTGGTACAG 480
 40 ATTCTTGCA TCCCTGCCC CAGAGGGCGG CGGGCTCTC GTTCCCCAGC GGGGCGAGG 540
 GCGCGAGGC CGACTGTCT ACTACGCTCT CCTGTGTGC CCGTGGTTAC CGCGCTCAA 600
 ATTACCAANC CTCGAATTTT TGAATTTCCC CGACAGTTMT GTNCTNNTT TTTACCCAA 660
 45 TTCCGGAATT TCCCTATTAA ANGTAAGAC CONNNTTAC TTTGTGGAN TAACCTNNGG 720
 CGTNTNNG GGNVNCCTT TTNITACNGG CCCCNTCNA GGCCTTTTGG TTCCCTAAAA 780
 CCGGTNAAAA AAAAAAGAT T 801

(2) INFORMATION FOR SEQ ID NO:333:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1264UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:333:

10	GATCTCATGT ATCACAACCA GACTATGATG OGACTTGGGG TGAATATGTC TCCTTTGCCC	60
	AGCGGTTTCA AGAACGAGTG AAAGACAAGG ACCTTATTTT GATOGACTCT GGTGACAAAC	120
	GTACCGGTAA TGGTCTCAGT GATCTCACTA GTCCGATGGG TTTGAAGTCA AGCGGTATCT	180
15	TTAACTTCA GAAACTTGAC TTGTTAACTC TCGGTAATCA TGAAGTGTAT ACGGAAGATG	240
	TGGTTCGCTT GGAATCTAT GGAACAGCA TGGAGCTGA GCTAAGTAT AAATATGTCA	300
	CAAGCAATGT GGAATTTATC ACAGAAGATG GGGACGTTGT ATCGTTTCG CAATAAATAT	360
20	AGGTACTTTG AAAAGCCAAA CCAGAATCTA CGTGTATTGG CGTTGCAAT CATGTTGAT	420
	TTTCCCGTGG GCTGCTAAAA ATGTTAGGTT AACCCCTCTG GCCGAAGAGG TTAAAAAGGA	480
	CTGGTTCACC CAACTGTGG AAAAGTACCC GCTGACAAGC TTGATATTAT AGTTGTCTTC	540
25	CGTCATTAC CAGTCACCG TGGCGAAACG AGAGCTCTG CAGTTACAC AACGACTAAG	600
	GGAATCTTAC CCGACACTA TTATCCCGTA CTTCGAGTG NNTACTCAGT CNGAAANTCC	660
	CTNGTTTNG ANAAAAAGAN TGCCTTACCA ACGGCGAAAT TCTGAAACA TGGAAATCCA	720
30	TCAANANNNG TTTTCAAGA AACCAATTT TOCAATONAT ATGACTTACC CAATTCCTTT	780
	TCCCTCCNG NTINANACT CAAATTCNT CCAAGGAAGA ANANTNACNC CC	832

(2) INFORMATION FOR SEQ ID NO:334:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 800 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1265RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:334:

45	GATCTTGCTC AGAAATAACT TGCAATGTCT CCACTATTTT CTCAGATTA GCATTTATGC	60
	ATGTCACTAG GCATTTGGTT TCAGGTAATG CATTCCTAAC AAGTGCTTA CGATCTGGAA	120
50	CAGATTGTGT TCTTTGTGAT TCTGGTGGAG CCGTACCTCC AAAAGTTGAA TCTTCGTTTT	180
	CCGCCGAGCA GGAATTGCAT GGACGAGACT TCTTGTGAGA CATAAATCA AGTGGGCGCG	240
	CTCTATCTGA CATATCTTCC TGACTCTCTT CTGCATACT GGGTTACCT GGCTCTAGTT	300
55	CGTCTCAGT CCTAAGTCT CTTCTTGCAT GCATATCCCT TGTCGTCAGA TATGTTCTC	360

TCITCGGGCT AGAAGGGTCC TCATTTGTAG GATCTTGAAC AAAAAGTAGT TTGTTATTCT 420
 CCAGCTGGGC AGTCTCTTCC AGGTTTACT TOCGATGCTT ATTAATACTG GTTCTTTAGA 480
 TGGTTCCCTG ACTTTGGCTA TAGGCCATTC GTTCCGGGGA CTGTGGAAGG TATGCATTGA 540
 GAGTCTCTCT GGTAAACGT GINGTCCCC CGTTATTTTA NCACGGCTTG GCGGGAATGG 600
 TACACNGTTC AGTTAATCNC NGCGGGTTC NGTTCATCC TGTGGGGGTC CCACCCAGAA 660
 CCNNACTTN GCGGCCACNA TTTCCTCNC CCAAACNNTT TGGCCNAAA AANAATNTT 720
 CCCCCAAGN NGANNACG ATACCCCGAN ATCNGTATN TTGTGGGGN AACCCCNNA 780
 ANCCCCCOC CCNGNGGAA 800

(2) INFORMATION FOR SEQ ID NO:335:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 820 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1265UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:335:

GATCCGGTTC CCGCTGGTGA AGGCAGCGAC GTGGTTGTAC CGGCAAGGCG GCGTGGCGGC 60
 GTTCTACTTC GCGAAGGGC TCAAGTTCAT CAAGGTGTTT CCGGAGTCCG CGATGAAGTT 120
 CGGCTGTTC GAGCTGGGGA AGCGGTGCT GGGGGCTTG GAGGGCTGG GCGAGAGGG 180
 CGAGCTCTCG CGCCTGTGA CGTACGTTGC GGGGGGCTT GCGGCATCA TGGGCGAGTT 240
 CTGGTCTAC CCAATCGACA CCTGAAGTT TGCATACAG TGTGGGCCC TGGATAAGCG 300
 CTGCGGGGT CTGCGCTGC TAATCAAGAC GCGAAGGAC ATGTACCGG AGGGGGTCT 360
 GCGACTCTTC TACCGGGGC TTGGGTTGG CATTTTGGC GTGTTCCCG TACGGGGGC 420
 TCGACTTCG CACCTCTCG GCGCTCAAC GCTGGTACAT TACCGTCC GCAAATGCG 480
 TGGCATCTC CCGAGAACGA AGTGGTCATG AGCATCTCC TGTGCTGCG AATGGGCGCT 540
 TCAGCCGTAC GTCCGGCCA CGTGTCTACC CTATCAACCT TCTACNGAG CGTTCACG 600
 CCCAGNAGT TMTNCNCCC CCTCTTACA ANGNITCAAN TMTTCCGAA AACACCNCCN 660
 AGGCCCCCCC GCTTTTACAA GGTGGTTCC NACATTGCA GGTNNCCNC ATCCACNCT 720
 NTPTTTTTC NAAANTTAA NCCANCCCC CCNATAAAG GCGCTTNTC CCCCCNACC 780
 CNGGAATAAN GGTTCGNCT NNAAAACCA NACNCCCCC 820

(2) INFORMATION FOR SEQ ID NO:336:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 819 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: 1266RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:336:

GATCTTATCT	GGAACACCCA	TTCAGAACGA	TTTATCTGAA	TATTTGCGCT	TACTAAATTT	60
TAGTAACCCCT	GGGCTTCTCG	GTACGGGGGC	ACAATTTAGG	AAAAATTTCG	AAATACCCAT	120
TCTACGGGGT	CGGATGCTG	ATGCTACTGA	CAAGGAGATC	GCTGCTGGTG	AGGTGAAGTT	180
ACATGAGTTA	TCCCAGATTG	TGTCGAAATT	CATTATCCGG	AGAACCAATG	ATATCCTATC	240
GAAGTACTTA	CCTTGTAAGT	ACGAACATAT	TCTATTGCTC	AATCTCTCTC	CGATGCAAAA	300
GGCAATTTAC	GAACACTTCG	TGAGGTCACG	AGAGGTTGCC	AAGTTAATGA	AAGGTACAGG	360
GTCCGAGCCA	CTGAAGGCGA	TAGGTTTGCT	GAAAAAGTTA	TGTTACCACC	CTGACCTGCT	420
AGATCTCCCG	GATGAGATCG	CGGTTCTTAC	AAATTTAATT	CCAGATGACT	ACCAGAAGTG	480
CTAGTGACAC	ACACTCCGCC	GCCGAAGAAN	TTCCCTTTT	GNATTCCAAC	GANACATTCC	540
ATCNAATTTT	GCNATTCCTA	GAACGTTTTC	NGTTTTAGAA	TCCAGCCNTG	ATTCTAATGA	600
AAAAAATGTC	CCNGATTTCT	ACNNCCCCCC	ACCTTGGATT	TTNTCCAAAA	AAATNNCCCN	660
CCCNCCCCCN	GGTTTNTTCC	CANCTGAANG	NNCCNGNAA	ATTAANNANC	TTTNAACCTT	720
TTGAAATTC	CAAAACCCCC	GGGAGAAATT	NTGNTTNTT	TCCCCNGGN	CNGGGNNGGG	780
NTCCCCCTTT	NGCCCCCCCG	NGAANTTTGA	CCCCAAAGN			819

(2) INFORMATION FOR SEQ ID NO:337:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 807 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1266UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:337:

GATCTGTCTAG	CAITTCACAGA	AACCATCGCT	ACGAAAAGTT	TCCTACAAGT	AATCCAGCC	60
AGCCGAAGGA	CTCCCCGTTG	GGTCTGTAG	CCGTCTTGGC	AGCCACAGT	TTCCAGGACT	120
TGCTTCTGT	TGGTCAGAGT	ACTAGGCAGG	ATGGTTTTC	TTATTCCAAT	CACAGTGTG	180

TGGCTAATGA TGGCCAGCCC TCTTTACCGC GAAACCCCTGC CCCAGACTCC ACGTTCACTG 240
 CCGAGTTTAA CCAGCTGCTA TCTGAATCCA GCAACTGCCCT TGAGCTTGAT TCTATATTCT 300
 5 CAGGCAACTC AGTTCTCTGG AATGGCGAGA CCTTAACCTC TGAAGCAAGA GCTACCCCTG 360
 AGGGCGATGT GCCATCTGTC TCGAAGATG CCGCGACGA CAGCCAGGCA AATTCTGCAC 420
 AGAATGCCCT GAAGTATTGA GTCTAGCGGA CACTGAGTAT GCGGACCTGG ATAGTTTGAT 480
 10 CACTAATTGG TACTTCTACC ATGCGAGGGT TCGTCCCGCG GGTCTGAACG TTTTGTATA 540
 ATGATCGATT TTAGAAAATA TAAGAACCCC CTGGAATATG AATACNGNEN NTTAACCCCC 600
 GGGGTTGCT GATACCCCC CTCTCCCCCN CTNGGNTGAA TTNTTACCC NOGGNGGGN 660
 15 GANAAANAAT TCCTGCCNIN TTGGGTTCN AANCCCCATT CCTTTTNAA TNAAAANTGC 720
 TTCCNNGNEN TTTTAAAAA AAAAACCGTG TTGCCCNAT AACCAAATCC CCGCGANGN 780
 AATTTCCTGG GTTCAACANC CGCTCAC 807

(2) INFORMATION FOR SEQ ID NO:338:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 792 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1267RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:338:

35 GATOCATTCC ACCGATTGC AGCAGCTAGT GCATTTGCC ATACGCCCCA TTGCCCTTTC 60
 TTATAATGAA TCCCGCTTG TAGAGCATCA TCCGCACTT CAGTGGTAT TGAATAGCTC 120
 CTCATAACCG CACCGGAAGA TTTCAGGAAT ATATCTGGTT GTGTAGTGA GAGGTTATCA 180
 40 CTGTGGATTG TGATATGGCT GTTCAGCTT GAACATCCA CTAACCTCCG TTGGAATCCG 240
 AGCACGAACA ATTTTTTGNC TNAANCCNA NATTTTNOC OCTANAATAN TGNCTNNOC 300
 AAAATCNICN NNITTNAATT TTTTCCAAA CTTTGTCCGT GACCGGANIN GAAATGNGG 360
 45 NAAGTGAAT GTCCAAGNC GGNCGCNAA ATTAGAATTC CAGGAAAAT TOCTACANTA 420
 NANAGGTGNC ACCCGGGNA ACCCGGGG GGNNACTG GNCCTTINA AACTGNGAAT 480
 GCGGTINICC AACCTTTTNC CCGGNGGCTT GGGCCCCCN TTAATNCNAT TACCCNCCC 540
 50 TNCCTTTTCC NAAANNGATN CCCCCCNC GAAAGGTICN TTNNNNANEN TAGGAGGCC 600
 CTNGGTCCG GAATTGNNN CCTTTCTTNC TCCCCCCC AATCNGGAC CCTGNAANNC 660
 CCTTNNCCC CCNTTTTAC NNITTTCNN GNAANICTT CCTTGGCC ATCCCCGAC 720
 55 NNNAATTGGG GNTTAAAGG CCCCCCGNC CCCCNCNIGN AAAAAGNTNN GGNCCCCC 780

000000MHN GN

792

(2) INFORMATION FOR SEO ID NO: 339:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 824 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1267UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:339:

GATCCGCATC	GTPTTGTTGA	GTGATACTAC	CTGGACGCCA	TGTTGCGCGA	GCTGGCGCCG	60
CTGGCGAGTC	TGGGTGCTACT	GGTGGGCTTG	TGCAACGCGG	ACTGTGCCCC	CTCTACTGG	120
TTGGAGCTAC	CCAAGGACCG	TATCTGTGTC	CTATGTGCGA	TTGCGAACCT	CGTAATCAG	180
CACCTCGTGA	ATGTAGACCC	AGCAGCAAGG	GACATGCACG	CCTTCTGGGA	GAAGGTGAAT	240
GCGCTCTTCT	TGGAGAACGG	CTCAGGGGCG	ATGCTGCAGA	AGGAGGCTTT	GGTGCCGCAA	300
CCGAAGAGCT	GCGAGAACGA	TGGCGGGGAG	GCGAACGTTT	CTGGGTCCCC	GATTTCCCGT	360
TGCGAGACAC	AATACACATC	GGACCAAGGC	AGCAATTACA	TGAACCCGCA	CGCATTCGGC	420
ACGGGGGCCC	ATGGGGCCCG	CACAGGGGCC	TGCTCTGTTG	CGCTTAACAG	CGACACCCTC	480
TCTGTGGGAC	TGGCTTCACA	CAACGGCTGC	GCCCCAGAAG	CGTGGGCGAG	ATTCCATACC	540
AGACTTGCTG	ACCGAGGGTC	GAGGACGCCA	TCAGACAGGG	AGCTTGCTGC	TTTGACCAGA	600
AGGGCTTGAG	CAGGATTCCC	AGGACGACAC	GACCGGCTCG	TAATGCAACT	GTGTGCTTTC	660
CNATTTGGGC	CCTATCCCCC	AATGGAACGC	CACGCCCGNG	AAAAAAAAAA	AATTTTCCGN	720
TGGATATTTG	ATGAATTGAA	TTAGAAAAAT	TACNTTTCIN	NNATTCTTGC	GGTGCCACAA	780
CAATTGGGAN	TNCTAGACCC	GCGNCTGGC	NTTNGGTTT	AAAT		824

(2) INFORMATION FOR SEQ ID NO:340:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 787 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1268RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:340:

GATCCTGAGA ACACTTTTTC TGTGGAGGCT TATCAATGCT CTTTCTATCC GCAGCTTCTT 60

CCAGGCAGAT GAATACTGGC AGTGGCTGGA GCGTGGGCAT GTTAAGGCGT TTGGATATGG 120
 TGGGCTGACT TGGGAGTGGC AGCATGGGCT GCGCAGCTAT GCATTCCCGA TGCTCTTTGA 180
 5 AATGTGCTAC TATGTGGCGT GGATACTGGG TGTGGCCACC CGGATGGCGC TGCAGGGGTT 240
 GGCACATGGG ACCGGCGCTGT GTGGGGCGGT GGTGCGGAGC GCGCGGGGGG GCGTGGCCGC 300
 GATGAAGGCC GTCTGGGAGC TGCCGGAGGC AGCGCAGGAA CTGGTGGAGT ACTACGGGGT 360
 10 TATTGTACGG GCGCGGAAGT GGTGATGGCG GCGGTAGCAG CGTTGGGGGA GTTCTACAGC 420
 GTGCTGCTGG TTGCGCAAGC TGTATCTGGC AGTGGGGGAT AAGGGGGACA CCAGAAGGCC 480
 GACGCGCGCC GTCAGCGGTT GGCTGATGC TGACCATGAC AACTTCTTCA ACTGTTTCTT 540
 15 CGGACGGGA ACGTTCATCA CTCCTTCGAG ATGAAGCTCA CGCGTGGGC TCTACCATTG 600
 ATTGAACGGG CCTCACTTGG TTCTCTGCT TONCCCAACT TCGGGTGGCT CTMTTGCTG 660
 CCTCAGCCA NTACTTTTTA TCTGGCNCOC TGCTNTTCTT GGTGNGANC TGTTCGCCCN 720
 20 ANNGTGNCN CCTTTTAACC CGNCCCAAGT TGCCCCGAGC CCTGCGGGIN TTTCATCCA 780
 ANNANNC 787

(2) INFORMATION FOR SEQ ID NO:341:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 840 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1268UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:341:

GATCCAGGTA TACCGGCTC CGTGGCGCAG CGAGCTGCGC AGCGGCTTCA TGCTGCAAC 60
 40 TGAGAATGCC CTCGACCTGA TGTGGGGTAT GCTGACGATG GACCGGCACA AACGGTGGGA 120
 CAGGACTGGT TGCGTGTCA GTCAGTATTT TGTAGAGCTT CCGGAGGCGA CACCTCCTAC 180
 GGAAGTTCCA AACTAAATA AGTAATGACT ATGATAACCT AGATGGTATA CTGGACGTT 240
 45 TTGTGTTTGT GCTTTGAGGC GATGACATG GCTTTTATGG TATCCAGAC GTTGGCTGAA 300
 AAAGATTCAA CGTCTGGTA ACAGATTGCG GCAGACTACT TGTGAAAGA ACAAGACCA 360
 GAGCGTGGG ATGCTCACC CAATGACGAA CCACTCCGC CTTATTGGCG CTGGCTGCAG 420
 50 GTTCTTAGC ACCAACAATA GCGCGGCACT GCACAAGATC TTTCCTCC AAGAAGCTGG 480
 TGAACAGGAT GCTGTGAC CTTGATAGCC GACTGACCTT CCGGAAAT ACTGCTGTGA 540
 TACGAGCAGT TGTACACCC AATTAGACAG TAGTACGGCG ATTTGTAGTA CCGCGCGGT 600
 55 TGAGGCGGCC ACGAGTTTA TGATTCTGA AAAGGTGCTG AGAAGACTCG CCGCCAGAA 660

CGAGAGCTCC CATGGCCNTC TACTTGCCNC GGANAACAAC TGCTTTACTT GCTGCCANT 720
 5 GGANACNAAA ATGCAAGNCC NCTNCCCTTG ANCCCGTGCA CCGNTTGGCC NAAGGNNOGA 780
 AATGAATTTG CAATTTAGNT CNGATTTTAC NCTCTGGNTC CCCCCCCCCA CTGANNGANC 840

(2) INFORMATION FOR SEQ ID NO:342:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 787 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1269RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:342:

GATCCCACTC TTGGCAAGCT ATACGGTGAC ACTATCATAG CTCGGGGTGG CCTCTACGAG 60
 25 ATGGAAGACA ACCTGGGGGA GTTCTTGGAC AGAGAACCCA ATAACGAGGC GTACCTCAGA 120
 GATCAGGGCC TAGCCTAAAT GCTCCTTCTT TTGGGGGCTT TCCTGCGCTC CTATGTATAT 180
 TCCAGCTAGA GAATGCAAG CAAGCCATAC TTAGAAATAG GATATTGTTC CGGGAACACT 240
 30 GATTTACTGT GCGTTACTGC TCCGGAAACT CACCTGTTCG GTATCGAATA ATTAGGTTTC 300
 GACTACCGCC AGTGTGATGC TTTCTTTATA CCGGCATACT AAAACAGGGT CCTCAGTGA 360
 ATCGTGTGTC ACTGAATATG AGCCCTCCA TGAGTTOCCA TCGGTAGAG CGTCTATGT 420
 35 GCAGACCATA TCAACACCCT CTGTACACGC GTGGAGTTCA ATATAAGGT ACGACGACA 480
 TACAATAGTA CGTGTGCGCA ACCGTTATAC GAAGAGCTGC GTTCTGATTG CAGCAITTOC 540
 CAAGCCCCGG AAATACAAAA CCGCATTTTT AGCCAGTGC GATAGATGTC CTGAACCANG 600
 40 GAATTACANC GAAGGCGAT TGCTACTACN ANCATCANCC AGGGCTGNG TATTTCTCAT 660
 CCATCCCCCT CNAACNAAAA ATCCGGANTT TTAAATTTTC CATGCAAACC AINCANATCC 720
 CCNTTTNGAT ATTNCCAC TGGCCCCCCC NCCCCANNT ANCGTGGG ATCCNGNATT 780
 45 CCCCCGT 787

(2) INFORMATION FOR SEQ ID NO:343:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 820 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1269UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:343:

5 GATCGAATC CATGAAGGAG CGTAATGGCC TCGTGGAGCT GCACCGCACT GGGTGGGTAC 60
 ATAGCGGGAT GTAGGAATGC GGGGATAACG ATTCCGAAA GCTGACTGG CTGCGCTCT 120
 AGCTTCAGCT CAAGCTGGCG CAGCAGCGTT GCTATAGGCT GTTGTGGCGA CAAGGTGAC 180
 10 ACTTCAGITG CAGTAGGAGC AGGTAGCATA CGACTAGTTA TATCGAATG GTGCGGTAA 240
 TGAGGATGAG GGTCAATTTC TGGCTGAG AGCTGGCTAG CACCACAATT ATCAACCAAGT 300
 CCATACCTCC ATGCAATTCT GAGATCTTGG CTACGTGCGA CCGTTTTCG ACCCCCTCG 360
 15 GCTAAGTTT GCACCGTGAC CTTCGATTCC TCCTGGGAAA TGGGAGATT CTTTACCTCT 420
 TTACGTGTGC CCTGGAATAT CCCCAGCAGC TCCTTCGCAT ACTGAGTGTT GAGCGTGATG 480
 ACCACACAT GGGTTATCCC CCCCCCTGNN GGGCCCCNAN TTTCCCCCGG GTTATTCTCT 540
 20 GTCCCTGGGC CTGCAANAAC TTCCANITAC GANGCAATCT GGTCCCCCTG TTCTTCCCC 600
 AAAACATCTG GCCCATTTGA NCCATATGC CCTAGAACCN ATCCAATCTG CACCCGNGA 660
 NTTTTTGAA ANNAATTACC GGNAGGANC AACCCGGAAG NAAAGCCCGC CCCCCCTGTG 720
 25 GAGCCNACTT CCCCCCCCC NAAAACNGA ANTTNNTTTT TNNTTTGGCC CNANGNCCN 780
 TTTTNGCCC NGCCGGGANG GCCTTAAAN TTNNTCCCC 820

(2) INFORMATION FOR SEQ ID NO:344:

- 30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 806 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 35 (ii) MOLECULE TYPE: DNA (genomic)
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1270RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:344:
 GATCATATGG TGAACITGGC ACATACAGTT GAATCATCCC AATAGCAAAG AGAAGTAAG 60

45 ATTACCTAG CCGGCATCA CCTGGAATAT CTAGCATTTG CAGCGCAGGT GAAAAGAATT 120
 TCTCATGAAT TGATTGGAAA TGTGTTCCG TGTGTCCAT TGCTAAGCCC GCTAGTACAC 180
 GATAATCATC ATTAGACTCA CAGGTTAGAT GGGCCTTCAC TGTTCCTTA TACCAGTCTA 240
 50 ATAGAACCTG CCTGTAACGA GCATATTGAT CCTGAAGAAT AACCACCGAT GGTCAACCA 300
 TCGAATTGAG CAACAATGTC GGTCAATTCA CCGTTTGAGT GATGTGACTT CCGGTGAAAT 360
 TCTCAAAGGA ATTTAATTTC GGTATCAACC CCTTCAACAA GGAAGCTGTG AAGATATCAT 420
 55 CAACATGCGA TTTGTAAGCT AAACCTTCCC GCATCCATAG GAAATCAAAA GTGGCTGGGA 480

AAGCATAGTT TGGCTATTG GCTTTGACTA ACTGCGAAGT TAGAATACTA CTTGTGGGCG 540
 CCAGTTTGAA TAGCAGAGTT AGACATTCAA CGGATTCTNA GAATATAATC CTNGCGAATT 600
 5 TATCCATCCN OCTANAAAAT TTTTCCNCC TTGATCCANA ACNANAAAAT TCCGTGACC 660
 NCTGAAGACC TATTCCINCC TTINAAAGAC CTGCNCATTC TTCNATTTCC CNAANGNNTC 720
 CCGTTCTACC NAGAAANTTC TTGCATGCCN NCATGGTTTN AACCNAAACN TCCTTTGANG 780
 10 NTANTNACTT CCCCCNCCC AATTTA 806

(2) INFORMATION FOR SEQ ID NO:345:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1270UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:345:

GATCCGATTG TCAAATTTTC TGAATGGTAT GGTAAGAAGT TTGGGGCTGG AAAGGCTAAC 60
 AGTGGIGTTA TATCTTTGCG TGATATTTTA GCTTGGGTGG AGTTCATTAA TAGTACCTAT 120
 AAGGCATTGG CTTGCCCTTA TGCTTCATTA ATCCATGGGG CGGCAATGGT ATTCATIGAC 180
 30 GCGCTTGGA CCAACAACAC AGCGTACCTT GCGGAGAGTG AGGAACGATT AGAACACCAG 240
 AAGCAAGAAT GTCTCAAATA TCTGTCTGAA CTAGCAGGAA AGGATTTAAA CAAATACATG 300
 TCTGGTCCAT TCGATGTTAA GATTGACGAT GAAACTCTCC AATCCGGGCT TTTTAGCCTA 360
 35 CCCAGAGTTT CTTCCTCATC TGTCCAACCG GTTTTCAATC TTGGGCGACT ACTACAGCCT 420
 ACAATCTCAT GAAAGTTGTC AGAGCAATGC AAGTACAAAA GCCATCTTAC TGGAAGGATC 480
 ACCTGGIGTT GGTA AAAACA CATTAATTTT CGCATGGCT GACTGTACCG TTACGAATTA 540
 40 CCGTTTAA TTATCCGAAC CAACTGATTT GAATGAATTA TTTGGATCCG AAGCNCCCCG 600
 AAAAAAAAAAN GGNAAATTTNT TTTGNGTGA TGCCCCNTT TTINAAACTA TGCCAAAGTG 660
 GATGGTTTTN TTTAAATAAA ANNANATTGC NCCCCANCN TTTTAAAGGN CNACCCGTGT 720
 45 TTGTTNCCNT GGNGAACCCA NCCCCAAATT TAANAAAATT TTTGCCCCC ATCCGCTTTT 780
 TTGTTNCCCA AACCCANACA GGGGNGGTGA AAAGGNGTGC CAANCTTCCC TC 832

(2) INFORMATION FOR SEQ ID NO:346:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1271RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:346:

10	GATCATTATA TTATAAAATA TAATAAAGAA TATATTTAAA TAATAATAAT AATATGAAAT	60
	ATTATATTAA TTCTCCATTG GAGCAATTG AGATTAGAGA TTTATTAGGT TTAACATCAC	120
	CAATAATAGA TTTTAGTTTT ATTAATATTA CTAATTTTGG TTTATATCTT ATAATTCCTT	180
15	TATTAGTAAT TTTACTAATG AATTTAATAA CTAATAATTA TAATAAATTA GTAGGTCTA	240
	ATTGATATTT AAGTCAAGAA ATAATTTATG ATACTATTAT AAATATAGTT AAGACACAGA	300
	TTGGTGGTAA AGTTATGAGG TTATTATTTT CCATTAGTTT ATACATTTTT TATTCTTATT	360
20	TTTACTATAA ATTTAATTAG TATAATCCTT ATTCATTGTC TATAACTTCA CATGTAGTAT	420
	TTGTAGTATC AATAAGTATA ATTATTTGAT TAGGCTAAC TATTATGGT TTTTATACTC	480
	ATGTTTAAAT CTTTGTATTAT TTTACCACTA GGTACACCAT TAATTTAGTA CCAATTATTAG	540
25	TATCCATIGA ATTATATCCT ATTTGCTTNA ACTTATTCCA TAGGTTTTTA AAATACACTA	600
	ATATATACCG GTCATTTTAT AATGGTTATT TAGNNGGTTT AATATINAAT TNAAAACCAN	660
	AATATTTTACA TTTTATGGTN NCCNCCCAAN AAGGCATTGG TTTGGTNTTT TAAAAAGCCN	720
30	ACCTATATCN CCTANTTGAT NTNTTTTATN CCCCCTTTTA AANANCNATT TTNNCCTTAT	780
	TAAANTAAAT C	791

(2) INFORMATION FOR SEQ ID NO:347:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 834 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1271UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:347:

50	GATCAATCTT TCGATCATTG TCCAATATTC CCCACTGCTG TATCATATAG ATATTGATTA	60
	TAATTTCTAA ATCAACGTA TTGTTCTAAC TTTAATTAAC AATTATGAAT TTTTGGCTAG	120
	TTATTATTTT TTAATTAAT AATACCTAAA TCATTATAAG CTTGACTTAA AACAAATAAT	180
55	TATTACATTA TTCTTTATTT ATTATTTAAT ATTTAGTTAA ATTTTAAGTT CATTATTCTT	240
	AATTTTTACT CACGAGTACA CCACTTATTA ATACTATTAA TTAATAATAT TAACGTTTGA	300

TTGCAATGTG TAATGTCTTT AGTTAGCGCT TAATCTGAAC CAACATCATG TTCTCATTAT 360
 TATTAACATAT TTTTAATTAT TTTAAATAAT TATTTAATAC GAAAGTTATA GGATTGGAAC 420
 5 CTATGAAATC ATAAAGATTT ATAATAGCTC AAATATTACA CTTTAAACCA CTCAGTCAAA 480
 CTTTCTTAAT ATATATACCT TATATATGGT TTGATAATTT ACTTATAATA TATAGTATAT 540
 AATTTAATGA TAACTCTTAT CATTTAGGTG CGTAGGGTTC ACCCCCCCTAT TGCTAGTCAG 600
 10 CATATGAGGT ACCTCCCCC AATGATAAAA GTTATAATAT ATAATATTAT ATTAAGTATT 660
 TAAAGAAAT AATATAATTA TTTAATAATA TTTTATTTA GGNAAATAAA AAAAANTTTC 720
 ANNTTTGAAA NANGGTCNG AGAATTANAA AAAGCNAATA ATATGTTCAA TTTGACCCAT 780
 15 TAANAATGTA GINCNCTGAC ATCNCTATT TCCTATANAA ANTTTANAAN AANA 834

(2) INFORMATION FOR SEQ ID NO:348:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 813 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1272RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:348:

GATCAAATCT AGGTTCTCCG ACGGCAACGG TGACGAGTTC GTGAACGGCG TCAAGCTCTG 60
 TGCTTTTTC CATAAACACA CAGACAACAG CAATAAAATG TTCAOGAAGT TTGAGTTCTT 120
 35 CAAGCCTCCA AAGGAGATCC TAGAAGAAGC CAAAGCCAAG CTCGAGCGTA AGCAGAAGTT 180
 CATCGAAGTG GAAACAGAGA AGGAAGCTCT AGAGTCTAAG CGGTGGGAAA ATCCAGAAGG 240
 AACTGGCTA CTAAAGCCAT GTATATATAA ACGGAGGTGA TTGCCTAGTC TCTTCTCAGC 300
 40 ATGCGATCAT ACCTTATTCTG TGTAACTCTA TCAAACTATA TATAGGGGGA CCGACAGCTT 360
 CAACCGTTCC TAAAAAAGGT TTGGAAGGTG AACAGCCGCT GGATGTTCTC CACATTCTGTG 420
 AATGTAGGCA TTTGTGGCCA TATGCTGCTT GTCTCCGAGC TTTTCTTGTT GGGCTCCCAT 480
 45 CTGTGCCAG GAGCGGAATC CGTACGCAT TGTACCTGTT ACCCTGCTGC GAACAGCACC 540
 AGAAGAGGCT GATAATTGTA GTCNAGCAC ACCATAGAGC CCGAACAATG CCCCAGGCGC 600
 AGTGTGCGT TAGTTTGAAA TCCAAAACA CTTCGAATCA TGGGTTCCTC GGAGGCCCAA 660
 50 TTATCCGAAN TTGGCTTTTA AANTCNAAT ACAANGANTG CGCCCNVGT CCGCTGTACA 720
 TTGTGCCCCN CCTAGGNGC CCACTCCCN CNCGAANTTT TTATTCATTT AATCTCNG 780
 NCCCNCTTT GTGANAATNG AATTCANTTT TIN 813

(2) INFORMATION FOR SEQ ID NO:349:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 844 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1272UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:349:

15	GATGACCCC GCGCGCATCG GGGCCTCCGG CCTGCTGGC CCCTCGGGC TTGGCTGGCA	60
	GCTGTCTAC ATCTCACC TGCCATCTT CACCAACGAC TTCTTCATGT CCGGCTTCTG	120
	GCTGGCAAC TTGCGCGGC GCTCCAACCG CGACCTGCTG CTGGGCTGCT CGCTGGCGGC	180
20	CGTGTGCTC GCGGTGTGC TGCTGTCTGT CCGGCTCACC GGCCTGCTCG CCGTGTGGGC	240
	CGGCTACGG CCGGTGCAG AACTCGACAG CGCCAGTTTC TTCTGTCTGC TGGCCGGGCT	300
	GCCCCGCTGG GCCAAGGCG TGCTGTCTGC CCTGTGTCTG GTGCTATCCA CCTGCACGCT	360
25	CGACTCTTC CAGAGGAC TGCTCTCAC CATTTCCAAC GACCTCTTCC CGCAACCGCC	420
	TGCCCCGGCT CTACGCGGC GCGCGGTGC CCGTGTCTAT GGTCCCCGTC GTGCTGTCTG	480
	GCTGTCTGC CACCCGACAT CCTGGCCATC TACCTCATCG TCGACCTGCT GTCCGCGGCC	540
30	GTGTTCCCC TCATGTCTGT GCTTCTTGGC CGGGGCGCCG CGGCGCTGT TGTGCCCTGG	600
	AGCTGATCG CGCGGGCTCC GGGGGCTGT CTGGGTTCTC NCTTTTCCG CCATCTATAA	660
	CGCTNINCCN CNANGGGGNC GCTGTCTATT TATTGNAANG NCCCTACTTN AATAANGGGG	720
35	NNCTTNGGN GCTTNGTNT TCCCCCNIN GCGAAGTGT TTTCGCGNA NAANTTNGC	780
	CTGGGNCCC GTTGNCCN CCGGANANT CANGTAACC NCAGGGGAAN TOCAAANCTT	840
	CTNC	844

(2) INFORMATION FOR SEQ ID NO:350:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 792 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1273RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:350:

55	GATCCCAATA CAAGCAATAT TGTCCTACC AGAATGCCCC ATTGCGACC CATATAATCA	60
	CAAGCGAATC CCATCCCCAC CTGCCCTATG ATAGTCCCTA TGAGTGATGC ATTGAAACC	120

CTGTGAGATA CATCTGCACT ATATTCTATC TCACCGTACT GATTTCTGAA TACACGGTTT 180
AACATCGACA TGACATTATT TTGGTAACCA TCTGAAATAA GCGCAAATCC TGCCGCCAGG 240
5 ATACTGAATA GATGTAGCCA TTGCCCCCTC TCCCCACAG CAAAACGTGC TTTCGGAGCC 300
TCCGGTCAT ACTTTAGTAA CCTGTCTGTG GACATGTAT TTCTGCAAGC CCGGCTATC 360
CGAATAATAT CTAGCGGGTC AAGCGTTAGG TTGCTGCATT CTATATTATA TATTTCTCTT 420
10 CTCTACCAGG TGCAAATTTA CCTGTATGAT TATGCTGCAA TCTCCGGTCT TACTTCTCTT 480
TCTTGAGAC CGCTACCGAC TGCTTTATGA TTATCGGTGC ACCATATGGC GTCAAGCAGC 540
ACTAGCTTTT ACCTGTGATA CCTTCTTTTA CTAAGTGNAT TCGAACTAN TTGNNCCCA 600
15 TACTATATCC TTCCCCCTAGA GTGAAATAAC CTTCATTTA GGTNNNTCC ATTCGCGAA 660
ACAGTTTTTA AANAANACA ACCTTTATCC TTNAACCCCA AACGCCCCAA AANAATAATT 720
TCCCCATTIN CTAGGTTTTT TNGCGCGGA GGAAGAAAC CCCCCCTAAC CCCCTAANA 780
20 ATTCTCTTNC CC 792

(2) INFORMATION FOR SEQ ID NO:351:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1273UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:351:

GATCGGCGTA TAAACTGAA AGTTCATGTA TGCTGTCTTG AATGCAGAGA CGCGGCGCAC 60
TTTACACATC GCGAAGCCTT GTGTGCGAA TGAAACATTA AGCTTATGTC AAATACCATG 120
40 AACTGTATGC CAAATTTAGT AAAACTGTA CGTCTGGCA GCATAGATAG AGCTGTTACC 180
GATATCTCCC TTGAGGCTAA AGCGAGCAT TGGGTATTAA CTTCGCTGGA CTATTCCGAA 240
TCAGAGCTTT CAGATTCTGC TTTCATGAG TCAGTCATCA AAGTGTGGA TGTAGGATGT 300
45 TCTATTTTCC CACCGCAATA AAGTGCAGTA TTTCATGAGT ATTCAATAAG CTTACCTCTC 360
ACCTGATAT CTAGCACATC AGCTGGAGCG GAACCTAACC AGACACGAAG TTTAGTGGCC 420
AGCTCTTGA GGAGTAAAA TATTTCTTGG TCCGGCAATG ATCTCATGC GCCATTATAT 480
50 GCGTAACGT TAGGTACATA CCTGTGACAC CCAACAAAGT ACAGTTGCTA ACGTCCCAAT 540
ATCTTAAAG ANCCGTTTAA ACCNCATATT AAGGTGAAGT TTATGAACCT TTGANAGTAA 600
CTGNNCTNT ATAGCGAAT ACCANANNA TAACGNCCT GTTANGNAT CTATCGAAGG 660
55 NITACTTCCN NITCGANCAT TTTATAGTTC NINCTATTAC CCCCANAAA TTTGAACAAC 720

CNTGAGAAAA GTTNNNNCCN CNGGGAAANG AAAANTNTNC TTNIGANTOC CCCCCTTTAC 780

5 CTTGAAGNIT CTCCATTNC GAGATTCAAA TTTTNTAAN AAGGANTTN TAA 833

(2) INFORMATION FOR SEQ ID NO:352:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 803 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1274RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:352:

20 GATCAGAACC AAAAAGCAGT TCGAGTATAT CAGTAAGCAC TGGGAAGTTT GGGAAATAGC 60

AGTGCTGAGA GTTACGGGAC AGATTGGCAA AGACACATTT GCGATGGAAT TTAATTCGCC 120

25 GCAGCCAGAG CACGCACAAT TACACATTCA CCTAAAGGT GCAGCCCCGC TGCTGGGAAA 180

ACTGCACGG GAGGGTGGC TGATGCACCA CGAAGATAAC CAAGAAAACC GGGGCCGGGA 240

AGGACCGCTG ATTCGGTCAC CGCGCTGTC ACCACGAATC GGGCCGGGAG AGAACCGGGG 300

30 CGCGTNGGA ACCGAATCCC CGAACCTTT TMTTACCCC AACTTGGNTC CNGCCTTAN 360

TTTCAAACCG NTINCAAACC CCNNCCCTGG GTTNTNTNGC CCNNINCCCA NTANITGGGC 420

TNCGGGGGGG GGGGCCCN GN CAAAAAAA ANGGGGTNTN CCNGGGNGGC CCCCNGTTTT 480

35 ANCAAAANAT TTNCCCCCGG GGTTCNCCCC CNNAAGGT TTTTCCCCC CCGGGGTTT 540

ACCAAAAANC CNGCCCCCCC TTTGGANGGT TTCCNNITOC CCATGGGGGG TTTTNCGGG 600

GCTCCCCCN GGGGAACCCC AAAAAAGGGC CCCCCCTTT NTGGGCCCC NAAANNCCCC 660

40 CNTNNITTTT CAGANGGGTT NCCNCCCCC TTTTITTTTC CCATTANNCG GGAANTCCCN 720

NTNTTCCCC CTTTNNCCCC CCCCCAAAA ANNAATTTT TTNATTAAAA GAGGGCCCCN 780

NGAAAAANAA NACCCNNCCC CAC 803

45 (2) INFORMATION FOR SEQ ID NO:353:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 814 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1274UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:353:

	GATCAATTGC GGATACACGA GGCACAGGCG GATAGGCCAA GCTTCCAAGA ATGGGAAGAG	60
5	TACCTAGTCA GGGTCGTCTT GGTAAAGCTG AACCGCTGCA AGCAGCTCTA TACACAAAAT	120
	GTAGAGATTG TATTGGATAT ATATCCGCAG ATAGACCGCC CATAAACACT AATGATACGC	180
	TAATTCATAC AACTACAGCG TGTACATCAA ACACACACAC AAGTTTGATG CACACGCTTT	240
10	ATTGTGTTCT TCACACACT TGATTTAGAC GGTCAACACC CTCAAGGTGT TAGAGTGGCC	300
	AACACCAGAC GCGAAACCTT GAATAGTGAC AATAGTGTC AACTGCTCA GGATACCAAG	360
	CTCCTTGGAC TTCTCCACAC CGAAGTTCAA TCTGGCCTCG ACCTCATCGG TCCACTCATC	420
15	AGCTGCCCTC TGTTGGTAGA CGAATGGGAA GACACCTCTG TGCAAGTGGC AGTATCTGGC	480
	CGCTCCTTGG TTCTGGTCA CCATAACGAT TGGAACTTT GGCTTGTAAT TGGAGACCAT	540
	CTGTGGTGTT CACCCGAGGT TGATACACGA ANATGCTTG GCTTCTGCTC GAANTNCCGC	600
20	GAAAGCAGCA CACAAGNCC CGAGGTTGAA TTGGCTTGNT CATTTCTGTA GTCACCGTAT	660
	TTGAACGTTT GGAAGGCCCT CACACATATC AAAATCTGCG CAGNNTAAA CGTNAATGGT	720
	TGANACCTG GGGTCCCN AAAAATAANA TCNCCGCCN GAAAGTTCC ACTTGAACN	780
25	CCCCNGTGT CTGGTTTTGN TGGTANCCCA ACCG	814

(2) INFORMATION FOR SEQ ID NO:354:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 754 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1275RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:354:

40	TGACTGGGCT TGTGAGGAA CTGACGCTTT TACTACATGT AGATTGAAAC CCGTTTCTCT	60
	GGATCGCTC GTCTGGTTGC TTGGTATCTT TGCCAATCTT OCTGAGTGA CGCTGCTGT	120
45	AGAGGATCTT CGCGATGGG CAAACAGCC CCACAGCCC AAAGAGTTG GAGAGAGGC	180
	TGAAGAAGGT TCATTGACCT CCTTTATGGC TTCAAATGCT GACGGAAGTG ACAATGTT	240
	CCCAAGAGC ATGTCCGACA ATTCTCTGAC GGTGGACTCC AAGACCTGA TGGCTCTGC	300
50	CCTGGTCTTT GATATTCTAT GGATAGTGGC AATGTCTTT GAGAGTGTC TGTCTGTT	360
	TGTGAGGTTT AGGTTATCAA GTTGGCAAT AGCGAGCTGC TGTGCAAGTT GGTGGTTTTC	420
	TCCACAGCT GTGCTCTGT GTGTTTCAGG TGTGTCATCA GTTCTTTAA GCTCTCTCT	480
55	ATCGGCCGAT CGTCCACTG GACTGNTATN TTTTTCAC NCCATTTNN CCATAATTG	540

NTNAAGNAGG TNCCCCNCCG GAATTTINGNT CCGTTTTOCA NAGNTOGGNC CCGGGATAAT 600
 TTAAACNITT AAAAATTANC CCGGGCCCTA NITCCTTTTN CCNATNNNN GNNCCCCCN 660
 5 GNAANNITTT NCAANNCTTN TGNNCNTAN CCTTTTINNC CCCACGGTTT TTNNVCCCCC 720
 CCNVTCCCN ATTNNGGANT TCCCCNTTN CCCC 754

(2) INFORMATION FOR SEQ ID NO:355:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 842 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1275UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:355:

GATGCCCCAC ATTATGTC TC AGGTACTTT GTACGTTAAG AAGACCTGCC GCTCGATGCT 60
 25 GCTCAGAGC ATCGTGGAGC ACTACAAC TT GGAGTCTCT ATTGTGATG CCGACAAGAA 120
 CGAGGAGTTC GAGAAGAAGT TCCATGAA GCGGCTCCA GCGTTTTCCT GTGGGCTGG 180
 AAATCTAACT GAGACCATGG CCATCACTA TTAGTGAAG TTGCCACCGA CTACACACCG 240
 30 AAGCATGGAG CCTAGTGTG ATGAGAAAAC CTTTGAAAA AACAGTTATC CCTGTCTGAA 300
 TGGGCATAAT ATCTGGTTC ACATGTGTG AGAGACCATA CTCTGATTTA GAGCTACATG 360
 CGAGGTTCG AGGAACAGT ACTAACCGAA CAACAGTGT CAACCTAATC CAGGACGAGA 420
 35 AGGCAAGGC TGCTCTGCTT GGCTCCAGC TAGAGGAGCA GGCACAGGTG TTGGGCTGGG 480
 AGTCTTTGAC CAACACCAAC TTCATTGACG ACGTTGGCTC TGCTCTCTAT ACCTAGAGAG 540
 GGTGTGGTCC CNTTNCACCA ANNCNACATG GAAAACGNCN TTCCCGNGG CGAAACNTTN 600
 40 CCCNAGNITT TINNAAAAAA GAAATAACN CTTCCTCCC TTACCCCGG AAANTTTTNT 660
 TINCCGGAN NCCNTGNCN TNGGGGGT GAACNNANTT CCCCACANTT NGGGGNGNN 720
 NTGGGNCNG GCCCCCCCC CCCNNNNANG GTTACCCCTT GGGTANCCCC NNNINAAAAA 780
 45 CNCCNCCCC CCTTNGGTC GGACCNAAAG GGGGGNCCC CAAANGAAAA AAAAAAAAAA 840
 AA 842

(2) INFORMATION FOR SEQ ID NO:356:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 77 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1276RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:356:

GATCGTATTT GTTGTTGACC AGTAGCACTT TTTTCATCTT CCTTGGACG ACCAOCCTCG 60

10

CCACGTTACC GAGGATC 77

(2) INFORMATION FOR SEQ ID NO:357:

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 77 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1276UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:357:

25

GATCCTCGGT AACGTGGGG AGGTGGTGT CGAAGGGAAG ATGAAAAAAG TGCTACTGGT 60

CAACAACAAA TACGATC 77

(2) INFORMATION FOR SEQ ID NO:358:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 822 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1277RP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:358:

GATCGTCAC GGACAGACTG AATGGTCAAA ATCAGGTCAA TACACAGGCT TGACAGACCT 60

45

TCCGCTGACC GAATATGGTG TCGGCCAGAT GCGGGCACT GGTGCTGCGA TATTAGGCG 120

AAAATACATT GATCCTGGCG ACATAACATA GGTATTTACT TCTCCAGGCG AACGGGGGCG 180

GAAGACTGTG GACCTGGTTT TGGAAAGCCT CAGTGAAGAT GAACGTGCAC GCATCCAGGT 240

50

GGTGGTCGAC GAGGACCTAC GGGAGTGGGA GTACGGTGAC TACGAAGGTC TGCTGACAAG 300

CCAGATTATC GAATTGGTTC GTAGCCGTGG CTTGGACTGC AAGCGCCCAT GGAATATATG 360

GCGCGACGCG TCGGAGAAGC GCGAGAGCAC CCAGCAGGTG GGCTGAGGC TATCAGAGT 420

55

GATTGCCCGG ATCCAGGCAT TACACCGCA GCACCAAGCT GAGGGAAGGC CGACCGATAT 480

TCTGGTGTTC GCGCATGGCC ATGCTCTCCG TTATTTTCTT GCGCTCTGGA TGAAGATGGG 540
 CGTGAAGCG CCGACGCCAG ACTGGCCAT GGCCTOGAGT AACCGGAATG ACGATCCGTG 600
 5 CCTTGGTGC GGCTOGAGCA ATCCGTACCT GCAGGACACC CCACTTCTTG CTAGACGCAG 660
 GTGGCATCGG TGTGTTGTCC TACCCCNIN ATTTGAGACC ANTCTACTCN CCTGGCCNTT 720
 CNTTGGCCCC CCGAGATCCC CCCACGGTNA GTCCACCGA AAATTTTAT ATCTACAAGN 780
 10 GNGTCCCCC ATGAATATAC CNTATCTTCT TAATCGTCN CN 822

(2) INFORMATION FOR SEQ ID NO:359:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 818 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1277UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:359:

GCGGTCTTC TGCGGCAGC GCGAGTCAG GTGCCGAGC AGGCCCCAG AGCGCGACT 60
 GCGCAGGGA TAGTACGGT ATGCGACAG GCGCGCGCC AGCAGGTTC TTGCGCGAA 120
 30 GAACCAGAGG AACCGCGAG GCTAACAG CTGCACAGC TGTCGGTAA CTGCGCGAG 180
 CGGTCCCCG GACGCCAGC CCATGGTGT GCGCAGTC CCAGCATCA CGCGCCCCC 240
 GCAGATCAGC ACCGTCCGA CGCAGTAAG CATAAAAC GGTCTGGA GCAGCAACA 300
 35 CGAAACCAG CTGTTGAACA GCAGTCGA CGCTGCAGC GGGGCCAGCA TCACAGTGG 360
 TAGCGTGGCA ATCTGCATG TGCTTCGAA CAGTTTGGT AGAATGAATA GGTTCAGAC 420
 CATCTGCCAT AGGGGGCTAC GTTACACCAC CTGCACAGT CCGGTGCA CTTGCAGGC 480
 40 AGCCTTGCGC TGAAAGTACC AGGCCCCAAA GACTGCATAC GCTTGAACT ACCGCCACA 540
 CGACCATAA TAACAGTTG ATGACCAIT CGCTTGATA CCTGCACCC TTGCTGCAG 600
 AGTACTCTAC TGTGGGCGC TTPTGGCTCT AGGTCTCTAC GCTATGCCAA ACATACTGC 660
 45 TCCGTGGGT CATGTTGAT GCTGTATGTC ACGTGACCA TGACAGGTA CCTGTGGTT 720
 CTCTTCGGT TCAGGGAT GATACGAAA NCGAAATTA NCGATGAA TTTCCGACC 780
 CTGCGANTAC GACNCAACN GGAGCGCG TTTTNTGT 818

(2) INFORMATION FOR SEQ ID NO:360:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 828 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1278RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:360:

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10  GATCTTCAAC CTGCTTCGGC CTATGAACAT TCTGTGTGA TTGAGAGGCG ATACCGCCTC      60
    CACCTTTCTT CGAGCCTGCC CGGTTTGGT AATCCATACG TTCTTCCCA TTCTTTTGGT      120
    ATTGGTATAA GCGATGCAA TGAAAACAGC CTCTTGAATA CAAATOGACT TGCCTACGTA      180
15  TAAAATTATA TTTTATCAG AAACTTGGCG AGCATCAAGC TGGGCTTCAT TGATTCATAT      240
    ACTAAACAGA ATACACTACA TGCTACCGTC CGAAAACGAA TAATCTATTT CCAATATATA      300
    TATATATATA TATATATATA TTATAGTTGT ACTTTATAAA TCTGAACTAG GTCATACAAC      360
20  TCTCAAATCA AACGATATTT ATTCTACATA TAGCACGGGC GACGCACCAA TTGAAGACTC      420
    TAGGGCGCCT GAACTTGGCG CTGCCCTGTA TCTTTAGCCT GTTCCTTTAC AGGGTCATAA      480
    ACATAGTACA TACCGCGCTC TAGTTGCTCA TACTGGATGT TCCTCTGTTT CAGCTGCGGC      540
25  CAATTTTGGT GAGGATATC CCACCCACAT TTCTGAGCTA TGAAAGCTGC AAGTGTGTCG      600
    CACAGCCCCA GTAACCTAGG TCAATTGCGG TGCTTAACGG GTCTCCTATG ATAGTACTTG      660
    TGGTACGTGA GCTGGACGNT GTTTACATCN CGGAACTGC GGNCTTCAN CTNITCNATC      720
30  ANCNCAATCG CATNCANNTT CTGGCNANTT TTTTIGANTC CATGACCCCC CCNAAANINT      780
    TTCCGGTNG ACCCACACC CCTTGAAATN NCTGATNIGN AGANGNC      828

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(2) INFORMATION FOR SEQ ID NO:361:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 855 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1278UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:361:

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45  GATCTTGGAT GTACTGGGG CTACACTTC GGTTCGTGT TCTGTGCTT TTTGCCCTC      60
    TGGCCCTTGC CATACGTGGA TGCTCCTTG CCCATCTTAG AGATATCTGC TGTGCCGCTA      120
50  TGGAGTAACG CTCTGCTTG CGAACTCTAA GTAGTGTAT CAACTGTGT GTATCATTTT      180
    TGCCACCTGG AATCATCAA TTTCACCTAG CCCAACCCAA GCTGCGACCT ATCAAAAAAC      240
    AGGAGCAGGA AGCTGCTGA AGAAGCGCTC CAGGGTCTA CCGACGGGAA AACTAAGAG      300
55  GACTGGTGCT ATGACATCCT TCCCGGATC CATCCGAGT TCAGTGCTTT CGAGCTGTAC      360

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AATTGGGTCC GAGGGGTGG AGCGCAAGCG TGGTGACAAC ATCAACGACC GTATCCAGGA 420
 GCTGCTCAAC GTGATTCCAG AGGAGTTCTT CCAGGACTAC TACCAGAAGA AGAAGGACCA 480
 5 GGAGTCCGAG AGCGGGAGCG CGGGCGCTCT GCCCAAAAAC AAGGGAACTG GGACGGGOGA 540
 CGGCAAGCCC AACAAAGGCA GATTCTCAG CAGGCGGTG AATATGTGAC CTATCTGCAA 600
 ACCAGTGGAT CTGCGCACCG CGAAGAGGTG GAGCTGATCC TGAAGGTGAG GAGCTGTGTC 660
 10 GGCAGACGGG CAGCATCGTG AACGACGTGA ACTAGAAACA CCATTGCGA CTGCGGCTGG 720
 GAAATGGGT TGGGNCCTG AGGGTCTCC GGAATTNTGC GGCNCAGGG CAGCACACCC 780
 NOGCAGACA CGCCCCAGA CCACACACTC ATTTGGGTCC CATTGGAGC CNTAGATTTT 840
 15 CNOCTGGNCT GTTTT 855

(2) INFORMATION FOR SEQ ID NO:362:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1279RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:362:

GATCCTTCG GATGCTGGTA GCTCGATGA GGAAGTGTAA CTTTGGTAA TGTCAGTCT 60
 GCCTAAGCAT CTACTTTCAA AGGGTATAT ACAGAGAGGG TTGCTAAAA GTGGTGGATA 120
 35 TAGGTTACTG TTCTCATAT TAAAAGATAT CCAATCGGG CTACAGGAA AAGTCACGAA 180
 TCTATTGTG ACCTATGCAT TTGGAATCA TATTGTCCA ACACACAGG AAAGCACGTC 240
 CCTTCTTATT AGACCGCAAG GCGATGGGCT ACAAAGGATA GTTTTGAAC TTCATTATTT 300
 40 GGCAATTGCA TTGTTAGAGA TAGCGGTGAT AAAAGCCCCA AAGGAGGATC AACAAGAGTT 360
 GAGTAAAAAC ATTATTAGT ATATCAACGA GTTGGCGTTA CTTCATAGTA CTCAGTCTCG 420
 AATATCGCTT TTTGATCCAA GCGTATGCCA ACTTCATGAG AGATTGTTAA CTTTGTATT 480
 45 AACTTTGACA GATCCCAAAT ATCAGGGTTT CTATATACAG GCTATTCTGG ACATTGAACT 540
 TCTATTGAGT AACAACATAT CTTTCACTTA AAGATGATG ATCCACCACC TTTTGAAGT 600
 ACTTGCAAAA TATTTTGGTA ATGAAAGGGA CATCGATTA GTCTAGCAG ATTACAGTTA 660
 50 GTAACAAAGG TCCAATTATA TTGAGACCAC TATATTNTAA AATTGTCCC NIGTTATTGA 720
 AACTTNTGC CCNGGTACA CTTATTGCTN TTCNACCG TCTGNAAAA ANTGTGNTT 780
 GFTACGATTA ACTCGTTTC TTGATTGAGC AACTTTTGT TTTATCATA G 831

(2) INFORMATION FOR SEQ ID NO:363:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 841 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1279UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:363:

GATCAAGAGT ACAGTTGATG AAAAGGAGTT CCATGATGAA ATATGTAAGA TGGACTTGCT 60
 TAAGAAATTG ATAATATAAA AGGCTACGAG CTTCAATATT ATAATACGCA TTGCATAATT 120
 TATTACATTA AATTGATATA GGTATATTTT TCTTGAAGA ATTAATTTCTA ATCATTTTCCA 180
 TGTGAAGATA TGGCCCTCTG TGTACCTGC GGATATTTTCG ACTCTTAGTA TATCTACATA 240
 TTTTGGCGAG CCATTATTTA AACTGGCCAG CTTGACTCTG GACCCAAGAG CGTAATGGC 300
 AGCAGCTCTT CCGTAGCCCA ATTCTTTCAA GCAATTGAGG CACCATGTGC CGTCTTTTAA 360
 TTCAAGCACA TATAAACAGA CGTCCCGTC AATAAACCTT AGCACAAITA TATCCTTTTC 420
 TTTCCAATAC ATGTGCCGAT ACCTGGACAT TTCCTGAGAT GCAAAGTTAA CAAAGCTTAT 480
 AGCAGTGATA TCTTGGTTA GAGACATGCT TGCAAATTTT GAACCGTTGA GGTACATAAC 540
 ATGAACGTTA TTTGAGAATA TCAACCACCC ATTAAATGAA CTGTACCTGT TTGAAACCGC 600
 AATGCACTGG NNINNCTINGA AATATTNCC AACCCNCCCT TAAAGNGTC CCCTTTTATT 660
 NNGNCTINGC TATTCCCAAA AAGNTACCCG NITNTTGTG NNCCAAGGN NTTTTNNCT 720
 TNTTGGCAGC CTTTLAGAGN TTTAAANATN TTCCAANCCC CAAATCCANT TTTTAAAGGN 780
 CTCCCTNAA AANNCTNGA ATGANCAGGN GAATTCGTTT GCGNTTTAAC TTCCAGTNA 840
 G 841

(2) INFORMATION FOR SEQ ID NO:364:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 826 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1280RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:364:

GATCATCAGA CCTGTGGAG GGTTCGTAG TGGAACTCT TGTAGGGGG GAGCCGCTGT 60

TGTGAGCCTT GAGCCGCTCT GGAGACGGCG GCTCGAGTGT AAACGGAGCT CGTATCGGGG 120
 ATCGCGAGAT GTACTGGGGC GACCTTAATG CAATTTTCTT CTGGAAGGAC TTGTGCGGGA 180
 CGGAGGAAAG TCTTTCAAAT ATTGACGCAG AGCGGCCCTT TGAGATTGG CTCTGGAAAG 240
 ACGGTCTTTC CAAGGCGGCG GGCAGCTTCT CTCCCGTGCT TGCAGCGCTT GCGCAGGTG 300
 CAAGCACGGC CGCCTTCGCA AGAACGGGAC TGTGCTTCAG TAGGCTTGTC TTGGTCATCA 360
 TGGGCTGCAC CACCAGCGGA TCTTTGTTCG GCAGGGGCAC AAACATGTTG GACCGCGGGA 420
 GGGTGGGTC ACGGCTGGCG GGAATCAGCG CTGCGGTCCG AAACGTGAAC GTGTTCTGG 480
 GGCTCTTCGA CATCGAAACC TTGCTCTCGT TGATGGGACT TCTCCGAGTC CACCTCTGT 540
 ACGTGTGCTT GCTCCCGCTC CTGGGTGGCG TCGGGCTCCN GNCNCNGT TCCTGCTTC 600
 CTGACTNITC CCCCCCTTT AGGGGAACAC GGAAGAAAA NAANINCCCT TTCTNNCCCG 660
 GCCCCGTGTG TCGCCCCCN NNNNCCCCN CCTNNNNNN NNNNNNNNN NNCCNNNNN 720
 NNNNNAAAAT NTAGGGGNGG GAAAAATNGG GTTAGNGTCC CCCACNGAA CCCCAAAAA 780
 AACCNCCAT GTNCCAGGG NCTTNATGAN CANTTNCN NTGGGA 826

(2) INFORMATION FOR SEQ ID NO:365:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 840 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1280UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:365:

GATCATAATG CGACTATGCG CCATAAGCAG GGCAATAGCG CTATCCACAT CAAAGTCCCT 60
 GACCGTTCCA TTCTCCGCGA CCGTGACGTG OCTGTGTACA AAGGCTCAGC GCTCCAGGCG 120
 CGGATGTCA TCCCGTATCA CGAACTATCA AACTCGAACT ATTTCAGTGT GAATCCTGGT 180
 GAAACACTAA CACTTCTGT GTATGAACCG GAGTTAAACA TCCAAGGCAA CATTGTGCG 240
 GGGCGGCGA TTACCAATTT AACTCAGGCT GTACCAGGCG ATGTCCCGAT TTCTATTCTA 300
 GACGGGAACA ACTATACCCA CTGGCAGCG TTGACAAGT CTGAGAGGCG ACTCTGTGTG 360
 ATTGATTGG GTTCGAAGA GGAGTACGAG ATCACAACGG GTTAAAATTT TGTGGGGCGC 420
 TGTCCCGCG AAGAACTTCT CCATCTCTAT TCTCCCAAC TCAAAGCACA TCACAGAGAT 480
 ATTGACAAAA CTGACGGCCA TGATGGACGG CCGGAATACG GACTTGTCTC CTGCTCAAAG 540
 TGCCAGCGCG TCTCTTCTC GCAGCATCTG CTGGGGGGC TGGCGAATGT CACCGATTCC 600
 AGGGAACTCG CGGCCATTGA TGAAAACGTG GANNGTGTTT TAAAAAATTT CNGTTGACT 660

TTCANCTCCN NNNVITCACH TTTOCCNAGG CGCCAATNCH GANCTOCTNA GGGCCTGNAA 720
 CACCATTNAN CNCTGACCTA CTCAAAAGIN TTCTATCCCC CAATNTCHIT TCCAACACAA 780
 5 CGATCTGCTA ATTGNGGNC CAACCATCAC TTNNTGCATC ATTTTGCCAC AACAATGNGA 840

(2) INFORMATION FOR SEQ ID NO:366:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1281RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:366:

GATCCGACGT TCAGTGGACT CTTOCCATTT AAGGTTTTCA ACAAATTCOA AACTCATGTG 60
 TTTAATGCCT TGTACCATAC CGATGAAAAT GTATTTATTG GAGCTTGTA GGGCTGGGT 120
 25 AAAACTGCAA TGGCAGAATT AGCTTTATTG AGTCACTGGA GAGATGGTAA GGGACGTGCC 180
 GTCTATATAT GTCCATCTCA GGAGAAAATT GATTTTCTGG TGAAGGATTG GCGAAACAGA 240
 TTTTAAATG TGGCAGGTGG AAAGGTTATT AATAAACTCA CATTGGAATT AACTAACAAT 300
 30 CTTCGAACGC TAGCCCACTC GCATTTAATC TTAGCGACTC CAGAGCAGTT TGACCTGCTT 360
 TCTCGTCCCT GGAAAAGAAG AAAAAACATT CAGACATTAG AGCTGTTGAT TCTAGATGAT 420
 CTTCATATGA TCAGTAGTGA CTTGCTTGGC GCAAGGTATG AAAATATAAT ATCCAGAATG 480
 35 CTGTTTCATTC GGGTCAACT TGAAACGGCC TTGCGTATAG TGGTTTATC TACCTCCCTC 540
 GCTAATGGTC GCGACTTTGG AGAGTTGGCT CCGAGCTAAA AAGCTACATT TTTATTTCTC 600
 CTTTCACGAA GGGTTATGCC CTTACAGATC CNCTTACATC CGTTCTAGA NGCATGAAAN 660
 40 TCTTTAATTG AACTATGGCC AATCGCTTCC TGACGNACAA CTCTGTGATA CTGCCANTNT 720
 TANCITTTTGT TCCATTAGAA ATGTTTCAAT TCTGTNCTG CACGCCGCCG GGANGAAATC 780
 45 CTGCTNCCN ATTAGTTGGA ACCATTCTAG GNNAAAAGAC TCTTATCCTA ACN 833

(2) INFORMATION FOR SEQ ID NO:367:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 853 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1281UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:367:

5 GATCTGAACG TATGAGAGCG GGTITTTTACT AATTATAGAA CCATATGAGA TAGAAAATGC 60
 GGCAGTTCCA AATCCAATAA TCCGATTACG GTGCOCTTGAT GCCTCCATTG CAATCAAACC 120
 AGTGTITGAG AAGTTTTTOGT CAGTTATTAT TACATGGGG ACCATTTCCTC CGCTTGACAT 180
 GTACCCCTCGA ATGCTGAATT TTGAGACAGT TCTTCAAAAA TCTTACTCCA TGACGCTGGC 240
 10 GCAGAAGTCC TTCTCTCCAA TGATTATAAC CAAGGGGTCA GACCAGGTAG CCATCTCTTC 300
 TCGGTTTGAG ATCAGGAATG ATCCCTCAAT TGTCAGGAAT TATGGTTCCA TATTGGTTGA 360
 ATTTGCCAAG ATTACTCTGT ATGGTATGGT AGTGTCTCTC CCTCATATT TATATATGGA 420
 15 ATCCATTATT TCAACTTGGC AGACAATGGG GATCTAGACG AGGTTTGGAA ATACAAGCTC 480
 ATCCCTCGTG GAAACACCAG ACGCCACAGG AAACCTCCTC TACCTTTTAA AACTNACCNA 540
 AGGCCNGCCC NNAATGGGNC GGGCCANITA ATTCTNGTGG CCGNGGGAAA ATTCTNAGGA 600
 20 ATGGATTING ACNCCCTGGG NGGGAGTGTT TGAAAATGGA TCCCTCCCTT NACCGANAAC 660
 GTTINTTTAG GGAGGTTINT NTCNINANA AAANATCCAA ACCCGGAATA CTTTTTCTTT 720
 25 NNAGCATGAA NCCCCCCCCT TTGCGGAAAA TTCAGGGGTG AGGAANATAT GGTTAATGIN 780
 CCCCCCNCN GNNCCNNAA AAAAANCACT CCAATGTCC CAGGNCCTTN NGNACCACTT 840
 CTNNNNATTG GAT 853

(2) INFORMATION FOR SEQ ID NO:368:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 598 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1282RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:368:

45 GATCCGGAAT TATAGAATCG ATGAGCATTT CATTTAGCAA CCTTCTTCCA ATTCGTAAATG 60
 GTTCATATAT AAACCTCCTA GCTTCTCTTT GATAAATCCT TTCAAGAACA GCACCGTGGC 120
 AGTCTGGGTT TATCTTTATA TTATTTCTTG TTATGCAACT CGCATGGTCT ATGAGGTGCC 180
 50 TACATACATT TAGGTCGCCC ATCAGTACCA CCTCTTCCC CAGATTCTCT ATGTCTCTCA 240
 CACGTTTGAA TAGAGTTTTC AGGAAACGCA GCCTAAAAAC TTCACCCTCC TCAGTGTTC 300
 TAGAATTAGC AGGGCAGTAT ACGGAAATGA CCACCACCTT ACAGGCCAAT TCGACTAGAA 360
 55 GGCATCTCCC CTCACTGTCT AGTTCTGTG CATTTAGCATC ACTCCCATAG GGCAAGCCAT 420

CATAACCACC AATACCAATG GTGGGTCTCT CGCAATATGC TACCAAGGCG CCATCCTTTT 480
 TTAATTTTTT AGTCTGCTG TAATACCTCC TCCCGCTTC AATACTTGTA ATGATTATCG 540
 5 CAAGATCGG CTGCTTCAGG GATTCTGTTC CAGNCCACN CCNATACCTT TCTCCTGN 598

(2) INFORMATION FOR SEQ ID NO:369:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 622 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1282UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:369:

GATCTGCGCA AACACCCCCA CTCGTGTAC CTCCTGATG CTGTCAATCG AGTCTTGTG 60
 CATGCTTCTA TCTTTCAGCA GGAACGGCC TAGGTACGG ATGTTCCGC GCAGCAGCC 120
 25 GCAGATAGCT TGATGACCG CGGGTGTGA CAGGTCACC GACTTGTAGT ACCCGGGGAA 180
 GAGCGGCGCG TTGCTCATCG GTAGCACCAT CAGCTCTCG TACTTGCGCG GCACCTCGCC 240
 CTGCTCGCG GGGTTCGACC GCGCGCGCC GCGCGCGAA GACGCGAAC CGCGCTGCC 300
 30 CCGCGAAGAA CTAGCCTCG ACGACGATT CGCTGTCTT TCCCGTGGCT GCGCTCGC 360
 CTCCTGTGCG CGACCGCTT CTCGTGCGG CCGCTCTCC GCGCGCGCG GCACCTTTT 420
 GTGTGCTC TGGTCCGCT CCGGCTCTT GCTTCAGTAT GCAACTGCC CCGCGTGA 480
 35 TCCCGACTG CTGCGCAAG GCGACTCTT TTGGGGGGG GCGGGGNNG NNNNCCNC 540
 CCGCGCGCG GCGCGCTGN CCGCGCGCG CCGTTGTGC TMTTCAGCG GCGCGNTTG 600
 CCATCCCCC CTNNTTTTT CT 622

(2) INFORMATION FOR SEQ ID NO:370:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 798 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1283RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:370:

GATCAGGAAA TCGACGGGAC TGCTGATTG TCTTTATAGT CAAGCATATT AAACACAGT 60
 55 GACTTAAACT AGATTACAC GTGACATCA ATTGTGTGT TTCTTTTTTA TTGAAAAAC 120

CTGCATCGAG CTATTAGATG CTCATCGACA CTAGTGTACA AACCACTCAA GCCTTAAAAG 180
 CTCTGCAGCA TGGACCAGTC GAATAAGGAG CATCGTCCTA AAAAGGAGAA GCGACAGCT 240
 5 AAAAAGAAGC TGCACCTCCA GGGCCACAAT GCGAAGGCAT TCGCGGTGGC CGCTCCGGGA 300
 AAGATGGCCA AGCAGATGCA GCGCAGCAGC GATAAGCGG AGCGCGCGCT GCACGTTCCG 360
 ATGGTGGACC GGACGCGGGA CGACGACCCG CCGCCACTCA TTGTTGCGGT TGTAGGTCCC 420
 10 CCGGGGACGG GTAAGACAAC NCTGATCAAT CGCTGGTGG GCGGTTGACC AAGACGACCC 480
 TCGGCGAGAT TAACGGTCCG ATCAGCGTCG TCTCCGGCAA GCGCCGCGGT CTGACGTTCA 540
 TTGAGACGCC CGCGGACGAT CTGAACCTCG ATGTGGACAT TCGAAGGTT GCAGATTTCG 600
 15 TGCTGCTGCT GATGGACGGT ACTTTGGTTC GAGATGAGAC ATGAGTTCCC TGAOCTGGCN 660
 CACNCCACGG ATNCCCTTTT NCTGGATTAC AANCNNCAT TTTTCATINC NAGGCCNCTC 720
 CNGCTCNAAA ACTTTTNACC TCGTTCGAC NATTTTNCN GGGNNCNNT CCGCTTCGTCN 780
 20 TTTTTTATGN NGNNCCT 798

(2) INFORMATION FOR SEQ ID NO:371:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 829 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1283UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:371:

GATCCGCTGG CCCATCGCG AGAGCTATGT GCATCGCCTC ATAGTGGCCT TGATACGTGT 60
 CTCAACCAAG ATTGTGGAAG ACACCGTGCA CTCCACGAG TATTTGAGCA AGGTCTGCGG 120
 40 CATATCGAAG AAGCTCTTGA TCGCCCTCGA GCTAGCCCTC ATACTCGTCC TCCGCGCGCA 180
 GGGTTTGATG GTCACGGCTG CAGCTCTAAA CGCTGCCTCA AACGCACGTG CTCGGCTTCG 240
 CGAGCAGTCT GCGCTGCCAG CCGCTGCTGC TCAGTGATAA TCGCCACTTC TAGGCCACCA 300
 45 ATTCGGTTAT TTAATAAGCA ATAAATACTC CAACACTAAT AGTATACACC GTTTGCGAGA 360
 GTAAGCAAGC AGCAGGAGGT GGCAGCTTTT CTGGTACCAC CTCAGCCCC TTGCCATTGC 420
 TGCTTATCTG GTTTAGGCAT GAGCAACCTT AGTCAGTTTC GAACCCGIGA TATATGTTTC 480
 50 GAACACGTTA CCTTTTCGGT GAAAGAAAA AGCCTAAAG CGAAATGTTT TCCATGTAA 540
 CACAGCAGAT TAGAGGTACC TTGTACTGGA TATTCTGTAG GATCAGGGC TACGAGCATT 600
 CATCCAGAAG CTTTGAACCT ANGGTGTTC NGATGGCAG TINGGACTT ATNCCGTGGN 660
 55 TNTAAANAA TACTTCGTCC TAGTCTTTGG AACAAACNIG CATTTGTTGT TCTINGTTTG 720

GANNATCGGN AAGACANCTT TTGCCCTGCT AANAAGACNG TTGGGAACNG NNGCCNNTGN 780
 CCCNCTCCGA GNCNNGAACN GGCCCCNTTN CNNTTCNNCN GGGGNNNNC 829

(2) INFORMATION FOR SEQ ID NO:372:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 817 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1284RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:372:

GATGATCTG GTCAGGTCTA TTTGTGGCAC CGATGACAAA AACATTTTTC TTGCAITCA 60
 TACCATOCAT TTCAGTTAAC AATTGGTTAA CGACTCTATC AGAGGCGCCA CCAGCATCAC 120
 CCATTGAGCC ACCTCTAGOC TTTGCAATGG AATCTAGTTC ATCCAAAAAG ACAACGGTTG 180
 GCGCTGGGGC TCTAGCTTTA TCAAAAATAT CACGAATGTT GGACTCAGAC TCACCATAOC 240
 ACATGCTTAG CAACTCTGGA CCCITCACAG AAATGAAATT AGCAGTACT TCAGTTGCGA 300
 CTGCCCTTTC CAACAACGTC TTACCACTAC CTGGAGGACC GTAAAACAAC ACACCTTTTC 360
 ATGGCGATAG ACCAAACTTA ATGTATTGGT CAGGATGCAA GACGGGATAC TCAACGGTTT 420
 CCTTCAACTC CCGCTTTATG TCATCCAACC CACCAACATC GTCCCAAGTA ACGTTAACCG 480
 ATTCAACCAC GGTTCACGT AGCGCGGATG GATTGGAGTT CCCAAGTCCG AATCTAAAGT 540
 TATCCATTGT AACTCCTAAG GAATCCAAGC ACTTCAGCGT CGATTTTCATC CCTCGTCCCA 600
 ATCAATTAGA CTCATCTTCT CTCTAATCTG TTGCAITGCA GCCTCTGAAC ACAAGAGAGC 660
 ATATCAGCAC CCACATACCA TGGTTTCAGC AGCTAGCACT TCCAATCAGG TCATCAGCCA 720
 TCTCANTTCT TGNVTGGAT GTTTAAATTC CCACCTCCA GTGCTCTGGA NACCANTTTA 780
 TTNNGTCAA TTTACCAACT TTTAGNCGGN TNNATGG 817

(2) INFORMATION FOR SEQ ID NO:373:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1284UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:373:

5 GATCAAGCTG ATATGTATTC TGGGGTACT GGTGATATCC GTGGTAATCT TCTTGGGGG 60
 CGCTCCCAAC CACGACCGTA CTGGCTTCOG CTACTGGAAG AACCCGGGGC CCTTTGCGAT 120
 GAGCCTCGCG CCAGGAAGCA CGGGCCGTTT CTTGGAOGTG TGGCGCGCG TGATCAAGTC 180
 GGCTTTGGCC TTCATCCTAT CACCAGAACT TATAGGCATT GCATCGGTG AGGCGCAGGA 240
 10 CACCCGGCGG AACACTGAGA AGGCATCGAG AGCTTTCATA TACCGTATTA TCTTTTCTTA 300
 TGTGAGCTGC GCGTCATGA TGGGGTCAT CTTATCAAGA ACTGATCGA AACTCATAGA 360
 GCGCTGAG AGAGGGCGC CAGGCGTGC CTCTTCTCG TTGTCGAGG GGATTGCCAA 420
 15 CGCAGGATT CCGTGTCTG ACCAGTCAT CAACTGCGG ATCTTGTCTT CTGCGTGGTC 480
 GGCAGGCAAC TCCTTCATGT ATGCATCCAC GCGCATGGTG CTAGCGCTTG CGCGGAGGG 540
 AAATGCCCA AAGTTCTCA CCAAGATCA CAGATATGTG TGCCCTACAA CGCGTCATC 600
 20 GTCTGCAGC TGTGCGCTG TCTTGCTAC CTGAACGTCA AGAGACTCC GCAATGTGTT 660
 CCACTGGCTG TGAACATAT GCACATCTC CGCTTCATCC GCTTGTGCG CATGGCTCCC 720
 TTATATCGT TCCNCGGT TCTTTTACA CTCNANCCN TNCCTNCCA GTTCCCTGCA 780
 25 CCNTTTCNC ACTATTCNT TMTAATGINT CTTTTINGAC AATGTTCCCT C 831

(2) INFORMATION FOR SEQ ID NO:374:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 817 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1285RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:374:

GATCCGGTC CGCCACAAGC TGCTGGTCCA CATGCTGCTG CTGCGCGGC CCCCCGAGC 60
 GCGCGGAAAG AAAACCGAAA TCAAGGCCAG CATTCGGTT ATGCTCTACA TATCGCGCT 120
 45 CGTACCTGTG CAGGGCCGCA CGTCTTGTG TGATAACGT GCGCGCTTC ACATCCGTCC 180
 CCGGTGCTG ACAGACCTAT TCCGACGCG GAGCGGGAC TCACTTCGA GCTGGGAGC 240
 GCGCGGTCC TACGAGTGC GCGTGCACG TCGCTGTAC GATGGGAGG TAGGCTGCT 300
 50 TGCTTCGGC AGGGGGGCC CGCCCGATTC GGCGGCGCC CGCCCCCGC CCGGAGATTC 360
 GCCACTGGGT CTCTTCCGC CCTTTCAGC CTGTGTGTG GATGATCTAA GCAGGTCCC 420
 CAGTACCAA CAGCAGCAG ATGGACACTC CTTGCCATTG CATCACTCT CCGCGGCTA 480
 55 TGCGGCCACC GCGCACCG CCGGGGGCA ACAGGCACT TGACAATCAC TTNTGGGTC 540

CGTCGGGGCC CCCCCGAGCC CCTTGGGGCC TTATTCTGCC CCCCCCAAAC CNACCNITGN 600
 CCAATAGGG TCAAAACGGG GNGTTGGNAA TTINCTTGNT CNGNNNNNG NNGGGTTTT 660
 5 GGGCCCCCCC GGTTCNCCCC CNANTINGC CCAANCGAA NCCGGGAGG GTTNNNGTN 720
 NNNGTAAAA ACTTNTACCC CCCNCTTTG GGTNCCNGGC CGNGGGTTT TTTTTTTCCC 780
 CCGGGNCCCC CCCCCNNGG ACCNTTNGG NACNATT 817

(2) INFORMATION FOR SEQ ID NO:375:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1285UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:375:

GATCTTCTTC ATGACGCTAC TGTAGACAGT TTCACAACCG ATAGCCTGAA GACACAGTAC 60
 AACCAGAGCA AAAGATATCA ACTGTTTCGG ATTCCGTATT CGGAGCATTC CAGCTTTAAG 120
 GACCTAAGTA TTTTCGCAAC CAGATCCAG ATGAACGCCA TTCGATCTAC AGTGAACCTG 180
 30 GCCTCTTTGG AGATGCATCG CATGTGGTTC GACACTTGGT CTGTATTAG AAACGAAAAA 240
 TACCTGCGTA AATTATGATT ACATGTTATA TATAGTAAAA GATAACAGC CACTCAGTGT 300
 TAAATGGTCC ATCATGCCTC TAGGACTCGT TGTGTTGCT CGACAGAACT GCAGTCCCCA 360
 35 TTTCCTTGGT AGGTTTTTGT GAGGCTTTTT TCTAATTGTC TAATTTAAAG TCCTGAATAT 420
 TATCCTCCAA TTGTGAATG AAAGACACAT GTACCACTAG AGGTTGAGC CGATGGCTOC 480
 AAAACGGCAT ATTTGTCATC CAAATCATGC CGCTGTCCA ACAGTTTAAT AATGTCCTG 540
 40 GAACTTGGAC TACGTCCGGA ACTGCTCTAT CATCTGGAAT ACCNCTCCT GTTATGONTT 600
 ACCATANTCC CTTCCCTTGG TGGCCNAATT CTTAANCAAT TTTTGNITAA ATNCCCCNT 660
 GCTTNNCTAA GGTNAATTCC NNTTGGCCCC CCCCCTGGG TTINTCCGTT CTTTGAATG 720
 45 GAGGAAGCCC AGGCTTGNC CCAATACNC GGCCTCGGG AAGNGTCCTC CTINGCCTTN 780
 CCCANTGGN TNCITGGGTT NNNNGCAAAN CNACNNGG CCTCTCTN C 831

(2) INFORMATION FOR SEQ ID NO:376:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 802 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1286RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:376:

GATCGCACCT ATAATGAAGA CCGGTITTTT TTTATGAGAA ATAGCAGCCC TCCAGGGGTT 60
 ACTTATTAATA TAGCTACAGT AAGATTAGGT TATTCGTTTG CAAATTCATT GGTAGATCAA 120
 10 CTTGTACACT TCAAATAATG CTTCGCTGGC ACCGTCATAA AACATGTTAT GCCCCTGTGT 180
 GACAACTACT CTGAAGCTAT AGTCAGGGTA GTGGTGGCA TTAGCTGGAC ACACCTTATC 240
 TTCACTGCCG ACCAAGACAT GGCCTGTGCA CCCCTGTGCG AGCAAAGGTG GCGCGTTAAT 300
 15 TAGGTCCTGC CAGCTAGAA GATACTCAGT GATGGATTG GTGAAACTG CTACACCGTC 360
 GTAGAAGTGA TTTAGCTTCC TGTACTTGTT CCCATGTTG GAGAAAAAGA ACTTAATTCC 420
 GGAGCTGTTT AACCTTCAT CTGGTCGAAA TTGGTCCCTA TGAATTGAG AAGCATGATC 480
 20 AAGAAGGGCT TGAAGAATGT TAGTGAAAGG TTTAGATATG GCTGACGAT ATCCAACTTT 540
 GATTGAGAG TTCTAGGTG CGCGCGCGCC AATAGAATGA TCTTCTGCG TTCAATTGTT 600
 GACCCCGTAT CCTGAAGGCT AATGCCAAGC CAAATGCACC CCATCNATTG CCCAAAACTC 660
 25 CCACNGACAT TATTATGGTT GGCNGTAGA CCATGAATCT AAACCCCCCTA TCACNCACCC 720
 CCCCCACANG GTTACCATCG CCCATGTCCC TTCCCCANCC TGAGNTCNAC CCCATINTCC 780
 CCTATTTCNC CACATATCCT CC 802

30

(2) INFORMATION FOR SEQ ID NO:377:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 835 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1286UP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:377:

GATCTTCGCA GCCAGCGGT AGTCCACGG CGTCAGTCCC TCGCAGAAG CCCCCTCGTG 60
 CACGTACAGC ACCACCGGT CGTCTGGGTG CCGCTTGTG GCGCGGACA CATACACCGC 120
 GCGCGCAGTC CCGTCGCGG CCGCAGCGC CCGCCCCCG AGCTCGAACA GGTGCTATC 180
 50 CTGCACAAG TACGTCTCCT CCAGCACTC GCGCGCGGC TCGAAGACC GCGCGCGTG 240
 CCACCACGGC ACGCAGTTC CGACGAGGC CCGCAGCGG GCGCGCGCG CCGGTTCGC 300
 GTGCGCGCG GCTCTAGC CCAGCAGTCC CAGCAGGTG CCGCGCCCC CCGCGCGCAC 360
 55 CACCGAGTAT ACCAGGCGG CCAGCGCTG CCGCACGCC AACCATAGA ACTTCAGCAG 420

AAACGGGAGT ACGCTCCACG TTTTGTTTGG AGATCCCATG ATGCCGGCCC GAGGGACGTC 480
 GACGCCCCGC ACCTGACGGG GCGGCTACTT ATACACCACA AGATTCTATA GAAAAGGAAT 540
 5 GCGACCAACG ACGAACGGTG TATCGTTTGG GAAAAAAGG AGTCCCCCAA CTAAAGCTTG 600
 CTTGCTGGCT ACGAGTTTGT GTTTCAGGTT TCTTCATAGC ATCCAGTTG TTTTGTTTGT 660
 TTGCCAATC GCATATGAAC CATAAANAT CAAANNITGT ACAATTGCTG CGACCGTTG 720
 10 CCCCATCCNC CGGCGAAANA TCCAGAAATC GAGANAATTT CAGACGCGG GTTTGCCAAA 780
 NTCCCGAAAC CCCAAANTCC CAACATTCTT GNCACATTG ATTCTGNNC NNCA 835

(2) INFORMATION FOR SEQ ID NO:378:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 799 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1287RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:378:

GATCCCACTG GTATTAGGTG TCTGAACACG GCCAAATAAA ATACGCAAAA TGAAGGGCAT 60
 30 TAATAATCTT TCATCAGTGT TGACAATAAC CCTTGACTCA TTCTGACAA ATAACTTTGT 120
 TACTTGTCG TTGAATAACG TGTATCTAA TAAGTCTTC AGATTGTCC TATATTTAC 180
 AGCTACTGGA TCCTTGTATG CTAACAACG ATCTAGGGC AGTTCTGCA CTTCCAGGT 240
 35 TCGACTACCC AATAATTCCA TCAACCTTTG GCGACATCT TOGGATTGT AAATAGCTTT 300
 GATATTCTTG AACTTGCCA ATAATTTCAA AATTAGATTC CTATCCGTCT CAGACCATGT 360
 ATCCGCAGAG TGCACTGCTA ACTCACCCAG ATGGTCTTCA TCTTGGTTGG CATOGAATTG 420
 40 ATCATTCGT TTTAAGACAA AAGGTACAAT GAATCTGCTA TTTTGTCTCC GCGAGCTGTN 480
 GCAGCGGAT TAATATCTTC AATGCTTGT TCTAATCATA CCGATATCC GAGTGAACCG 540
 CGANCCCTT TAAGGTTTTC CAACCAAGGA TTTTTCGAAA NCAACATNCN TTINGAANT 600
 45 TCCNAANNCA AATAATINAT CCTAAAAAAT TINTGCCNA NTCCAAAAAN TCCCNAGGG 660
 GTNNAAAGAG TGGCCCCAAA TTCNAAATNA GNGNTTTTIN GGGNTTTNOC NAAAAAAAT 720
 CCGNCCNAC CNGNNTTTA ANAATTTTGG GGAANCCAT TCCCCCCCCA AGGGGAAAAA 780
 50 AGNGTGNCC CNATTTTNA 799

(2) INFORMATION FOR SEQ ID NO:379:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 817 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1287UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:379:

GATCAGGTGG	TGTTGGCCGA	TACCGTGAAG	GAATGGATG	TCCTGGCCAT	GGCCGAGATA	60
GATTTCTCTG	ACACAACGTC	CTCTCTGAAG	GGCTGATGC	GGCGAGAGGG	CTCAATGGAG	120
AGGCACGTAC	AGGGCCCGAA	CACGGTCACA	GACCCATGGG	ACATGTCTTT	GGAAGTGGGG	180
AGAAGATAAG	CCCTGACGA	CGACCTGGAG	CAACAGACGT	CGCTACTGGA	CCTCAACTTT	240
GAACTCAGTG	ACATGCAGAA	CTCCAAATCT	TGGGGTGAAG	GGACGCACAA	TTCCGAAGAG	300
ATCAGTGCCA	ATGTGCTTGC	AGAGTGGCAA	CGCCAGGAGC	TGCCCCGGAA	CGAGGGCATT	360
GAGCGTGAAG	AGGATCTTGA	TTGGAATCTG	GGATTCACGG	AACCAGCAAT	TGTAGTCCCT	420
TCAAGCGATT	TTGAACACGA	TAACAGCATA	GAAGTGGGCC	GGAGAGCAGT	CCCCGAATGC	480
GGACCTTCAG	GAAACTGTGG	ATTTGGGATT	CGACTTGGAT	ATTGCCAGGG	TTGACATTGA	540
GGCTACAGCC	GGCGAGCAGA	TGCTGGCAGT	TTGCATCTGA	GCCTTCCGGA	AGTATAGTAC	600
GTCTTCTCTG	AACACTGTTC	ACANCCAAAA	CAAGAAAGGC	ACCTGGTTAT	CAATCTTACA	660
TTTACCCCCA	CCCGATTACT	GAAAGGTGNT	CNAAAACCCC	CCCNACANTG	CTCCNTGANT	720
AACCATCCCN	NCCCCATTCT	NCCCNAAAAC	GGNTNTGAC	CCTTINAAT	GATCCCTNCA	780
TTTTGCTTGA	CATCTGTCTC	NTTCCAACG	AGNCCCA			817

(2) INFORMATION FOR SEQ ID NO:380:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 787 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1289RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:380:

GATCGGGATT	GACCGTAATA	TTTCAGCTTT	TTGATGTGAA	TGCCCAGAG	GACCAGCGAT	60
TTGAATCTCG	CTGACTCTGT	TGTGAGTAAT	TAGTACAAGA	ACCTGTGGCC	TGTCACAAIT	120
AAGCCCTGGG	AATAGGACTT	CAACTTCAGA	AGCCCCAGAT	CGTCAAGCGA	TGATACAAGT	180
GCCTACCAAC	ATTGACTTAA	CATGAAAATT	GATAGCATTT	TTATAACAAT	GGAAGCAAAG	240

GACTAAGTCC TTCAAGTGGT CGCCAATGCA GCTGTTAGC AGGTTTCGGC ATATTCTCTG 300
 AAGATGTCAA CCTTCCAAAA ATATTCTCTCA GAGCATTAAAT TATCATTACA CAAGCCCTTG 360
 5 GTGTGAGACA GAATCTTGAG AGGTCTGCG ATAAACTCA AAATCGCAGT GCTTGGATTA 420
 TAGGGCTTAT ATACTGATTT AAGTGGTGGT GGTATCTAT TCAGGGTTGT ATAAATTAAA 480
 ATATCACAGT CGGTATACTC TTACACACTA ATTATAATCA CGTGATATTT GACTATTTAT 540
 10 TACACCAAGG CACCTCGCTA TGAAAATAGC AACAGGCTGA TGGTATTAAAC ATCTGAAGAT 600
 ATCGCCAACA TTAGAACACA CTACTGACAC AACGGCCAGC CATTGAGAC TATGGCTCGT 660
 ACTACTGCAN TACTGTGATG CTTATCTGAC NCTGACCNC TGATTGTTGC GGAAATCCNT 720
 15 TTGATGCGCA AAATCATNTC GNTGACCNCA ANITCTACTN TATTAAACCC CCCACCGCCA 780
 ACCTTTG 787

(2) INFORMATION FOR SEQ ID NO:381:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 788 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1289UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:381:

GATCCAGGC TGCCCCAGGA TGACGAAAG TTGCATGTC TTTTCGGGC TACAGGCTG 60
 35 CTTTCGGTAC TGAAGATTAA ATCGATGATC AAAAACTCG AAGAGATTTA TGGTTGGAC 120
 CATATATCCA TTCAAGTCAT ATTAAC TCA GCGCTGCC AATTCCTTGC TAATAAAAAC 180
 CCCAAGAAGA AGAACCTTTA CGTGTCTAGC GAAACAACT CATTCTCAA CTCCGTGGCT 240
 40 CACCAGGGGA AACTTGCAAC AGAACAACTC AGACGCATCC TACACTGGG TAAATAGGT 300
 CTCCAATACC CTTGCAGTTG GGGGGCGCAC ACCAAGCCA GCAGATCTTC TCCAGGGCGC 360
 AGCGCGCAA GGGCGGGCT CCGGTCTAAG CCAGGGCGCA GCTGCGGGA AGATTGAGCT 420
 45 CCTCCACAC ATACAAGTCT GGACGGATCA AGACGAGTGG GACGTGTGGA AGCAAAGAAC 480
 AGATCGGTAC TGCATATTGA ATTACGCAGG TGGGOGATAT CTTGTCTGTC GCGCCACTTA 540
 CGGAATACA CTTCAAATT GCGCTGGGC TTGTTAAAC CCGGAACAT GTTCTNTGGG 600
 50 NNTGNAACCA NTTTTCAAT TCTNCCCA NCGNGTTN GNGVINTNA ACCCCCCCCC 660
 TACCCCCNA AAAANAANA NAAAAACCC GTTNTGNTG TTTCACNCC CANAAAAAG 720
 GGTNCCCCG GAAAACGAAC TGGGGGAGA GAGAGNANN AAATTNAN AATCCTTTTA 780
 55 NCCNCGG 788

(2) INFORMATION FOR SEQ ID NO:382:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 761 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1290RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:382:

GATCGCTAGA TGCCCAAGGAT GAGACTGTTC AGGTTAGGCA GGTGTTGTAT GCGCCGCCAG 60
 AGGGAAACCC AATGACTTTG CATAGAACAA ACCCGCCATC ACCCATGTCT TCGCTGTAT 120
 AGAGACTAAG GTATCTGACG ATCCCTTAGC GACTCTCTCC ACCGCTGAC GAGGOCATTG 180
 AGCTCTTAGC AACTGCACAA ACCTACTCGA ACTCTGTTTC CAGACTTCTT TCTGTTTGTG 240
 TTCAACTGCT TTGGCATGAA GTACCCCCCA GGCTATTTT CTTACCCGOC TGGTGTGTGT 300
 CTATATACCC GGTGTATTT TTGATAAAAA ACTCAGCTCT TCTCTACGG CAGAAATATA 360
 TATCCAGTCC TTAGCGCCAT GCGAAAATCT GCGTTTCTAC CGCTGTTTCT CCCAGTCTTA 420
 GCACTGGCAG AAAAAAGATG TATGGCGTAT AGGCGCTGGC CCGCGGAAA AAAAAAAAAA 480
 ATAGAAAAT AGAAAAATAA AAAGAGTGG GCGGCCCCG GGCAGACGA AGAAAAATA 540
 GCGGCCACC CTTCCAAGCA GAGCAGAGC GAGACATAAT AAATCCACA CCAAGGGAAG 600
 AAGTCTTGTG CAGGCTCCCG GTCATAAGC CTGCCATTCT GTTCCATCCC GCTTGCAACC 660
 CAGTATGCAT GTCAAGCATG TTCGAGCTC CGCTGCTTGG AGTCGAATCT CTTCCTACCC 720
 AGCGAATCC CATACTTGC TTCACATACA TACCTTTCAT T 761

(2) INFORMATION FOR SEQ ID NO:383:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 639 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1290UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:383:

GATCAGACAT GGTGTTTTC GGCCTCGCT CCTTGTTGGT GGGGTACCG CAGTTCACG 60
 GGCCAGCATC AGTTTGTGTG GCAGCAGAAA CCTTAGGAA TGTGACTTTC TCTTCGGAG 120
 AAGTGTTATA GCTAAGGTT ATACTGCCAA CCGGGACTGA GGACTGCGGC TTGGGCCAAG 180

GATGCTGGCA TAATGGTTAA ATGCCGCCCCG TCTTGAAACA CGGACCAAGG AGTCTAACGT 240
 CTATGCCAGT GTTTGGGTGT AAAACCGSTA CGGTAATGA AAGTGAACGT AGGTGAGGGC 300
 5 CTCTTTAGAG GTGCATCATC GACCGATCCT GATGTCTTCG GATGGATTTC AGTAAGAGCA 360
 TAGCTGTTGG GACCCGAAAG ATGGTGAACAT ATGCCTGAAT AGGGTGAAGC CCNANGAAC 420
 TCTGGTGGAG GCTCGTAGCG GTTCTGACGT GCAAATCGAT CGTCGAATTT GGGTATAGGG 480
 10 GCGAAAGACT AATCGAACCA TCTAGTAGCT GGTCCTGCCG AAGTTCCTTC CAGATACAGA 540
 ACTCCTATCA TTTTATGAGT TAAACNAATG ATAAGTTACC GGGTTGAAAT GACCTGACTA 600
 TCCCCACTTT AATAGTTAGA ATCCCTGTTG CTTATTGAC 639

(2) INFORMATION FOR SEQ ID NO:384:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 813 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1291UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:384:

30 GATCGTGCAC GCGAAGACGT CGGAGCTGCG TCAAGACGGG CGCGGGCTCT TOCAGGGGGT 60
 ACCCCAGGCC GTGGCAGTGA CACGGTACCA CTCGCTGGCT GGACTGGGGT CAAGGTTGCC 120
 GCGGAGCTG GAGGTGACGG CGCGCACGGA GACAGGCGTG GTTATGGGGG TCGGGCACCG 180
 35 CAAGTACACC GTGGAGGGTG TCGAGTTCCA CCGGAGTCG ATTCTGACGG ACCACGGGCA 240
 GCTAATGGTG CGCAACATGC TAGCGCTGGA AGGCGGTACG TGGGCTGAGA ACGACAAGCT 300
 CCAGCTGCGG GCAGGCGCGG GCTCTGTGCT GAGCGAGATA TACGCTCAAC GACAGGAGGA 360
 40 CATGGCAGCG CAGATGGCTA TGCCGGGAAC TGGTATGGCG GACCTGGAGG CGAGCTTTTG 420
 ATTGGGGGTT CTGCCGGGCG TGGTGGACTT CCATGAGCGG CTGGCGGGGG ACGCCCGCGG 480
 CTGGCTGTGG TAGCCGAGAT AAAAGTGGT CTCCGTGCGG TGGCAATATT AGCGAGGGCG 540
 45 TTGGCNCAN AANANGCGT TNCNINTTGC CGAAGGCGGA ATTTTCGGC ATCTCCGGTG 600
 CTTTACCGAA CCACTGTTC TAAAGGGACC CGNAGANCN NAATTATTNC CCGACCCNCC 660
 CTTTGANAAA AACNANACTG CCCAAANACC GCGCGTTTG CTNCTTTANG ANATCTTTAT 720
 50 TNCNNTTCC AATNTTTGAA GCGGNTTNC GGCNACAAT TTCCCTTATT TINAAATTTT 780
 NAACCACCCC CCCCAGACC NTTTTTTTIN CCC 813

(2) INFORMATION FOR SEQ ID NO:385:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 773 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1292RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:385:

GATCCG	TGTA	TTTTTATTT	ACATTATTTA	ATTAAAAATA	ATGATTTAAA	TAAATATTTT	60
TTATAA	AAAAAA	TAATTAGTGC	ATTGTTACAT	GTTCATTAAA	GAATGATTAT	TATCAAAACC	120
ATCAACTAAT	TGTTATATAT	TTATTAAATA	TTAATTTTAC	TAAATTAAGA	ATTAGGAACT		180
TTATCTATTA	GTCTGGGCTG	TTTCCCTTTT	GATTATTAAC	CTTATCGCTA	ATAATCTGAA		240
ATATTTTAATT	TTAGATTAAAT	AATATATTTCT	GAGATTTAAT	ATTTTTTAATA	AAATAAATAA		300
TTATTCCTTA	AATAATATTA	ATAACTATAC	CATATATATC	TAATATTTAA	ATAATCATAC		360
TAACATATGT	TTCTAGAGAA	ACCAGCTATT	TGCAAAATCAG	ATTTGACTTT	CCTACTTTAC		420
CATTATTCAT	CAGATAATAT	TGCTACATTA	ACCTGTTCAA	TGTTTTTTAT	ATTTTATTAT		480
ATTTTAAATA	TAATAAATAT	ATATTTTAAAT	CAITTTGATAA	TAGTAAGATC	ATCTGCTTTC		540
GGTTTAATTA	ATATTAACTA	AATTTAAATTT	ATTTTAATTA	ATTTTACATN	GTTAAANATT		600
TAAATTAATT	TTAAAACCAN	TTTTATTTTN	AAATTTTGNC	AAATTAATAC	TGGGGGNCCC		660
CTTTCCAAGG	GGCCTNNMIN	NATTTTITNA	AAAAAATAAA	AAAGGGCINN	ANAAACCTTT		720
TAAAANITCC	CCNGGGCCCC	NNAANANINA	AANATTTNAC	CCNAAAGGTC	CCN		773

(2) INFORMATION FOR SEQ ID NO:386:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 798 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1292UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:386:

GATCCAGTTA	CTTAGTAGAA	TGATAAAATT	AATAAATATT	ATTTATTAAT	ATTTGGTTAA	60
CAATAAAATT	CAATAATTTA	TTTAAATAAT	GATTAAATAA	TCTCAATATA	AAATATTATTA	120
TATAATGAGA	TATATATTTT	TAAAAAGAAT	ATATAATTAA	ATAATCCCAA	CCAAAATTTG	180
TGCCAGCAGC	TGCGTAAGA	CAAAGGGGGT	TAGCGTTAAT	CGTAATGGCT	TAAAGGGTTC	240

GTAGAATGAT TATTTAAAT AATAATEAGA ATTAATAAAA ATAATTTAAG AATTATTCAA 300
 GTAAAGACTGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA 360
 5 TTAATTGACA TTGAGGAACG AAGGCTAAAG TAGCAAATCG GATTCGATAC CCGAGTAGTT 420
 TTAGCAGTAA ACAATGAATA CCTATTTATT TTTTATTAAT TAAAGAATAA ATTAAATGAA 480
 AATTAAAGTA TTCCGCTGA TGACTACGTT TGCAATAATA AAAATCAAAA CAATAGACGG 540
 10 TTCCGACTTA AGCAGTGGAA CATGTTTTTT AATTGATAA CCNCCANAA ACCTTACCAN 600
 TTTTNGAATA TTAAATTATA ATAATTNTA ATTATTACGG NGTCATATT NTCTTCCCTC 660
 CCGCCGCCNA GTTTTINAAT TATCNVNAAC GAACAAACNC CCATTTTTTT TTINANAAAA 720
 15 ATTATTTATT TTTTGAATAT TNAAAAAATA TAAANATCCT TINTCTTTT TAATGGNGA 780
 GINTTTTTTT TINTCN 798

(2) INFORMATION FOR SEQ ID NO:387:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 762 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1293RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:387:

GATCACCGAG CAGCTGGTTC GCCTGGGCAT AAGGGGCTT GGTCTCTGCC CACTGTCTTC 60
 CAAGACCAAG CTGCTGTGCC TGGAAACAACA GGTTGTGTAG CTGAACACCA GGAATTTTAT 120
 35 GTTTGTACAC CTCTGGGTGG GGGCCCTTGA GGTCGCTTC GAAGCATGAG TACAACAGTC 180
 TCATCTCCGC CCAGTATGGG TCTAGTTGGA TCGCATGATC GGGGTCTACA CCGGTCCGA 240
 TATCGCCACC CAATGAGGCC TGCAAAGCCG TAATGGAGGG CTGGGACGTT AAGCCAGACA 300
 TCGAGTTGGT GCGGACGTCC ACAACATCGG CCGCAGAGAT GCGGCATTGG ACCATTGATG 360
 CGACACCTGT GCCTGCAGAA TCATGTGTAT GCACATGAAT TGGGAGTCTT GGATACTTTG 420
 40 CCGTGATCGA GCCAATCAGT AGCTTTGCTG CACCGGCTT CATGGTGCCG GCCATATCTT 480
 TAATACCCAA GATATGTGTG CCCCATGGCA ACAATCTTTT CAGTCAATCC AGTAGTAATC 540
 AAGGTGTAC TTCTTGCTG CTGTAGCATA TCACCTGAGT TACAGATAGT GCTCAACAC 600
 CCTCCGCTT TCTTACGGG TNAAACCCA CTTCACGTG CTAGTNTCA CCNTCNAN 660
 50 CTCTGAAATN TCANNATCC CTTGCTGTT TGACAAATGT CATCCNTTT CCGCNAAAGA 720
 ATTAACACCC GTGGCCCAAA CNOCTGAAN GATTTTGCCC NG 762

(2) INFORMATION FOR SEQ ID NO:388:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 805 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1293UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:388:

15	GATCTTACAT CTGACAACAA TACGCTGGCG GCAGATGAGC TGCATTGATG GAAATTTTAA	60
	CACAGCTCGG GCAACCAAGCT ACACGGGATA TATAAACTCA ATGCACGGCG CTCCTTACTG	120
	ACACAGTCCA TCAGCATCAG CACCACCCCC AAAAATGAAG ACTACACACA TCCTATCCCT	180
20	AGCAACACTT GCGGCTGGCG CACCTGTTCA GCGGCACT GTTCAGGCCA CGGACCTCC	240
	CGCAGGGCA AACGTCCCCG AGAAAGCTGT TCTGGCTTC TTCCAACGT ACAATGTGG	300
	CGATGTGGAG CTGCTCCAG TGGACGAGG CGCACACTCC GGGATCCTTT TCGTGAACCG	360
25	CACACTAGCG GACGTGGACT ACTCCTCCGA GCATGTGGTT CAAAAATGGT TCGTCTGTC	420
	TCTCCACCAT GGGCAAAGTA TGTAAGGCCG GACCAGAGAC AGTTTGGTT GAGATATGTA	480
	AGTTTACTTG GTGTCTACA CCATGCATTA TGACACGGGC TTACGTACCT GCTTCTATAA	540
30	GCTAGTTTAA ATGTTTCTA TCGGTATTAT ATGGTTTACC CGCGCGATA GTTGCAGAG	600
	GCTGCTGINT TAAGGCCNAA CTTTATTCCT AANANGGTGG ATTACCCGGT NGAAANAATG	660
	AATCTGAATT GCGAAATTC CGCTGGNCT ATTANCTCCC CNNCCGTCC NAATAAATGG	720
35	AANATGGTGG GGTTTAATAC AAAANGNCC GNTGCGGCA ATGNACTGGA TTAATTTCAA	780
	AAACCTCCAA NTACCCCAAA NTGGN	805

(2) INFORMATION FOR SEQ ID NO:389:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 764 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1294RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:389:

55	GATCCGAAT GTGCTCAAG CTCGCTGCT TTCGCTGGC CTCCTGTTT TCTGTGGAAT	60
	CGTTTCTGGT GGTCTCTTC TCCATGTTG ACCTTGGTT CAGGCTCTTC AGCTGGTACA	120
	CCTCGAGAAG CTTGAGTTA TCGAATGCAA ATGGGTTTAG CATCTGACC ATATTCGCTG	180

CGCCACCTGC CTGCCCCCTTT GGCCTTACAT CCGGAGTCCA ACTTCAACGT AATGCTATAG 240
 AAAACGCCAT TGGCCTCGCC GTCTTATCAC GTGACTGTTT ATTGAGCTCG ACAGCTACTC 300
 GACTAGCACT GCTGCTGCTT TAACTGGGCT ATACACTTTA TATCGTTACA TTACTTTCTC 360
 CGTGGTCCGC GGATGGGTGG TGGTGGCTTG TGTGCAGACT CACTCTTGAA CAGAGGAGCG 420
 TTCTTAAACA TGCTGGTAC GACAAAGAAC CTTACGTGCG AGCCTCCGCA CGAATACATG 480
 GTCCATATGT GTCACCTGGC CGTCCCGTGC CGTCGCTGTC ACGTCTCTTA GCTGGCAGTC 540
 ATGTTGTCTT CGTGGCCAC CAACTTGGCC CGATAGTTTC GCGGTGCTT ACTCCAGCAN 600
 ACCGTGTCGC TTNGGCTTCC TTCACACTTA CAGGAATCCG GAANTGCCAG ATCNTACTTT 660
 TTGGTTTGGC CGTTTCCTT CCTGACANAA ANTGGTTTAT ATTTTGCCCG AAAAGNTTAA 720
 ATTTTACATT TTONAACA CAATANGTGC NTTTTACNN AAC 764

(2) INFORMATION FOR SEQ ID NO:390:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 800 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1294UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:390:

GATCTGGAAC TCCAAGTTC TGATGTCCTG CTTACGCTTC TCTGCTGCT CATGAATCGA 60
 CTGCTGCTTC CACCGAATGA ACGACCGCTT GTCCACATTA GGATGTACCT CGATGTCCGA 120
 GTACCCGAG ATTCTATCT TGTCCACTT TGAGTAATCG ATTGCCATTG CACTACCTTG 180
 TTCTGTTCTG GCTTCACTAC TGTGTCTCT AGATCTTCTG GATCCACCA TAACTGATAT 240
 CAAAGATTCA TATATGAAA CGTCCAACTA AATAATGTTA CACATAAGGA AGGACCAAGG 300
 CAACGCTGC CCAGTTCTAG CAACTTCTGT GTGTCACTCT CAACGATAGA AGTCTGGTCT 360
 CGAGATGTTG AGACCGTACT CCGCCACAGC GCTGCTGAGG TGGTGAAGG TCAAGGTGAC 420
 CTTGTTCGCA TTGCTCTTTT CGTTTGTGTG GTGCTGCTGC TGGCTGATCT GCTGTGTGCC 480
 GGGCTGCTGC TGACCGAGCA TCAGTTGTGG GCGCGGGGCC TGGCGTGTGT TGGAGTTATG 540
 GACGCGAATG AGGAGCGGAT ACGGAATACT CGTAGGCGTT CCGCCGCNAT GTGCTTAACG 600
 AACTTGTGTT GCCAACGCGA AGAAGGCTTT GACCGANAT CNGTGCACNC CGAACCGTCC 660
 TGGTCANTTA TTATCCATCA CACNTCCGGA AAAAGGGGGG GGTTCCTCTT AAGTCNAAAA 720
 CNCTTGANGT CTGTCTTGC GGTGAATCGG ATTTCCAAAA CTCTTTTCT NCGGTTTGGC 780
 CCGCGCGGCC CCGGGGGGA 800

(2) INFORMATION FOR SEQ ID NO:391:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 796 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1295RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:391:

GATCTTTCTT TCAAAATGGG ACGAGGTGCT TAAGTCATCC TGATCTGCA CAATCACGTC 60
 CATATTGGCG GAGATCAGTG CCGGTTTGGC ACCAGAATCG CTGCCCGGCC AGGTGACTAG 120
 CAATCCGAGC TCGTTGACAG TTTCCACCTT TAGCTTACAC CAAACCAGAG GAAAGTCCCG 180
 CGACAGCTGC TCGTGCAACC GTTTGAACTG CTTGTATGTC TCCGTGTGG ACTTCACCGC 240
 TGTGCAGCAG TCCGCTGCAT CCACCACCCA TGCCGAGGGG ATCTGCACTG CACGCTGTAG 300
 CTTCTCGACA GTGAGATTGC TGAGCGTGA GTTGTGCAGA ATTTGCTGGA GGTGGTCTCC 360
 AAAGCCCCC TGAGGTTTGG ACACGTCCA GCACGATGGC AGTGACGCCC CAGTCACCTC 420
 CGAAGAAACA ACAGCACTCC GCGCTGTCTG AGCAGAAAAG CAGGCCAGCA ACGCCAGCGC 480
 CGTTGCAAG GATATCGGTT CCCCCAAGG CCAAGCTGCA AACATCATTC TGGTGGTCAG 540
 CGACTGCTTT TCCCAAGAGA TCCGTGGGGA CCATGGGCCA GATGGCGGCC TTAATATAAG 600
 CCCCCTCTCG CCAGCATGAC TTCTGCCAAC TCCCGAACAT TCTAAATGGC CAGCTGCTGC 660
 TTTGATGGTA CCTNCCGNG CTNGCGCCAA AATTNATATA CCATAATCCC CINTCTAAAT 720
 ATNCTTACAT ACCACGCCCC AAAGCGCTCC CGNAGCNCN CCGAGCCCC CACTTTTNC 780
 NNAAGNANCC GNTGNG 796

(2) INFORMATION FOR SEQ ID NO:392:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 808 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1295UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:392:

GATCAACTTC AGTTCTGGC GTTGTGCA TGGAGGCGG CCAAGGCAG ATAGCTTCTC 60

AACTGTGGGG GTACCCCTGCA CCGGCTCCAC GACCGCTGTG CAGTGGAAAC GCTGTAAATT 120
 GTTCTTGGTG TAGTGCTTGA AGTACTCCAA AGACACACG AATCGGAGGC CTGCGAGGAT 180
 5 ATAGAAAACC AGCGTCCCGT ACCTACCGAT TGCCATGGTT GAAGCAAGGA TTCCACTGOC 240
 GTAAGTACTC AATTATTGAG TGCTAGCAAG CTGATGTTGA TTGTGTGATA TCAACGGTAA 300
 TCGTCTGTTA AGGAACCTTT TCAAGAAACG CAAAGAAAT GCGTGGTAG GTCGAGCAGG 360
 10 TGACAACCTC ATATTACTCA TAACAGTTAT CTATCTAAGA AGCGGCACTA TCGATATACT 420
 ATCAGCTTCG TATACACATA TATATCGGAG GTTTATAATC GCAAGTTAGC TATAATTGCC 480
 ATCGAGGTGT AATACATCGA AGATTGTCTA CGAACTACT CTGTCAACAA CACATCAGCG 540
 15 TATGAACAAT AACAGCAATA TTATGACAGG CAATTGCATA AAAGTATTCA AAGAGGGTTA 600
 AACAGTTAAA TTCCGTAAAG GTTCAGNGAN TATTCCCTGA CACCCCATAC CGAATCGCCC 660
 TGACCAATT GTTCACATGT TCANAGATTG TCCGGGACTT CATATGNACC ATGTTGCCGC 720
 20 CCCNAACTCN CATTATGTTA ATGCTTGINT TCCTGACTCC CCGGCTTGTC CCAAATGCCA 780
 TCCAGGGTG ANAGGTGCTC GTGATCTC 808

(2) INFORMATION FOR SEQ ID NO:393:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 779 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1296RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:393:

GATCATTTGT GCGTTTGGAG GTCACGCCAC GGACGTGGAC ATGTAAGTGA TGAGCTTGA 60
 40 CCGGCAGCTC TTCAITCGTG CGGCACGCAA GAAGCTTGAG TTCCCGAGGT CTCCGCGGGA 120
 GAGTTGGGCG TACCTTGGGT ATTACAGCGG ATACAAATTC GAGCGCATGG CGCTCCTGGA 180
 CCGTCCGGTG GCGGAACTC CGCGCGAGGT TCTGGAGAGC CGCGGCAAAC AGGTGCTCCG 240
 45 CAAOGGTCCG CAATACAGGA CTGTGATGAG AACCGGGGTC GGGGAGCACA AGCTGGTGCT 300
 CGGAGCTGAG ATCGACGGCA TCATTGACTT CCGCGAGCCT ACGGGGAGCA ACCTGAAGCA 360
 CTACGTGGAG CTGAAGGTGT GTCAGAAGAA CCGGAACTTC TCAGAGAAAC TTTTCTCTTC 420
 50 TTGGCTGCAA TGCTTTCTGG TGGGCATAAA CAGGGTTATT ATTGGATTCC GGGATGAGAA 480
 ATTCTCTCTG AAGAGCGTGG AGGAGTTTCAG TACGTCAGAG ATCCACACCC TGTTTAAAGG 540
 GCACCGAATA TTCCATGTAT GTTGTGGACG CCATAGATTG TATGGTGCTC CTTACAAATT 600
 55 GCTAINTGAC TCCCCCGGCG CCTGAAAANA NITCAACTGT TACAGTCTCC TGCNINCATGG 660

TGCTTACTTT TGCCCCACTG CCCAACAAAA ACCCOCAATG GGANAAATTN TCCCTNGTTG 720
 GTCCCAATT GGNNGNCCC CCANATANAA AATTCGNAT TATTCCTTG TTCTCTAN 779

(2) INFORMATION FOR SEQ ID NO:394:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 815 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1296UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:394:

GATGTACCG TTGCTGCTG CGTTTACCG ATATGGATG GTTGTTCGA GTTGGGAGA 60
 GCACGGTGGT CGGTGTCTCT GCGACGTCT CGACATGCA ATACTTACAG CGCCTGCTCC 120
 AGGACATGCA GATGAGAAC AACTACGACA ACAGCCACGC AGACGGCGG GAAGCGCTCA 180
 AGCCGAGCTA TATTTTGGAG TACCTTGCTT CGCTCATGTA CCAGCGCGGC TCAAAGCTGA 240
 ACCCGCTCTG GAAGCCATC ATGCTGCCG GGTGAGGA CGGCCAGGC TTCTTGCTT 300
 ATGTGGACT CAAGGGGTC AAGTACTCG CCCCAAGCTT GGTACTGGC TTGCGGCCC 360
 ATATGGCAT TCTCTCATG CGTAAAGTC CAGATGCCA AAAAGACTG CCGCGTCGA 420
 CCTCTCAATT GCGGAGGCA CTATCTGGA GTCCATGAAG GTGTATCTT ACCGCGATGC 480
 GCGTAGTTC CGTGCCTCT CGCTTGCCAT CATGACAAT GATGCCGGT TTACGATGG 540
 AGCAACTGGA AGTGAAAAC ATGACCTGG GTTTGCCCA AGGATATTCC GGGCTATGGC 600
 NCCCAAAINT TTTGAATTAC CNGGGCGCA ACGCGCAC CTTTTACTA TCTTGTTCG 660
 GGTGTGNC CAACCGCTG GNTATCCAT ACNTCAAAA NGNTAATCA TCTGCCCTGA 720
 ACCCNCCTG TTTNGINGAN ACCTTNCCT CTTTTCNGA TTTCGGGAT TGNCAAAAAC 780
 CCTTTGAAAA AACATTNCCC NITGGNAAAT CGATG 815

(2) INFORMATION FOR SEQ ID NO:395:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 766 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1297RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:395:

GATCTCTCTCG ACCGTGGTGA CCTTGCCGGC CTTCAACAAGA CGGCCCAACT TGGTCACTGG 60
 CACCCAGCCC TTCTCTCTGA CCTCTCTTCT GCGCTTGGG CCGTACGGC CCGTGTTTCT 120
 GCGCGGAAG CCGCTCTTC TTGTCTCTGG AGCTGACATC TTCTATCTGT CGGAATGGAA 180
 CACCGAAAGC TGGGGAGTA ACTTTGGATC GACCTGCTG ATGTAGTTAC GATACAGCTC 240
 CCGCGGGGG CTTGGGTGCT GAAAACCTGC CCACGGTCTG CGTCACCAGA AAGGAGGTCT 300
 GGGTGCTACC GCTGTTTCCG GCGTCAAGAC GTGTCTGGGT TTCACACTGA AACCCACACA 360
 TCAGACAAAC GCAGTCCCGG ACGGCTGAA AGCAAAACCC GCGTGAAGGA GCAACGCGGA 420
 AGCTGCGGG TCCGTGCGA ATCTGTCAA AAACAGGGT CACAAAGGA TTGGCGCTGC 480
 CCGCAGGACT GCTACGGGG CATTTGGCCC GCGCGAGCC CCGAGCAATG GAGCAACCC 540
 CTTGGGAGG TACGGCTCAC ACTGGGTAT AAAGCGGGC AGAGGGTGG AAGCAGACAG 600
 TGACACACAG GAGAGGACAG ATGTGGACN NCAAAATGAC AATCTATCA ANAGGNGGT 660
 CCGGGCCAAA CTATCAANAG NITCGAAGTT CCAAACTNGC CAGATCAAAA GGGCCCAAAG 720
 GGAAAAAACT TCCCCCCAC GACCTTTTGN CATTTTAAAC GCGCNG 766

(2) INFORMATION FOR SEQ ID NO:396:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 795 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1297UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:396:

GATCCAAAA CAATGAAGT TTTACAATGT GGAAGCGGTG ACACAAGTGA ATGGCGCTCA 60
 GGACCGCTAG GAAGGAAGTC TATGTGCAAT GCATGGGTA TCTGGTACAT GAAATTAAAG 120
 CAGCGGTTTG GGGAGGAGGA TGCTGGGTG ATTATGGAAT ACCGAGATT AACTAATAGG 180
 CACGATGATC GCAGGGTGCC CAAGAAATTT GAGGTCCAT TGCTGAGGT CGAAAAAGTG 240
 AAGAGAGCCA TAAGAGCTG TGTGTGGAG TATTTGAATG ATGTTGAAAT CCGGTTAAA 300
 ACGAGGAGGC GGGGTTATT ACATAAGGC AAGCCGGCA GTGGTTAAA AACAGAGATG 360
 AAAACCCCTG CCGCATGAG CACTGGAAG ATGAAACAG TTGTGAGCC GGAAGACAA 420
 TACCGGCGG TAGGAAGTA GAGACTATGC TGTGGCATGT AAGGAAGTA CTTTATTTTA 480
 TCTAACATAA CTAGGGTTCT TTGACCTGN TACCTTTGTA TTATCTTTG AANAAGTAA 540
 CCCCCCCTT TAAAAAATT TTCNNNTGN AAATAAATCC CTTTAAAGA ACCCCCCCN 600
 NAANCAAAAC CTTTNNCCCT TNGCCAAAC CCACCCAGAA ATTTTCCNC CTTTNNCGAN 660

ACANNGTIN CGAGATTCCC CANTTTNCGC CNAAAAAANC TCCCCCOGAN TMTNTNCCAN 720
 5 AGTCCCTTTT TNCNCTCCCC NCCNANAATC CCCAAATTAG AAGGGGTNTT CNCCCNNGCT 780
 CCCCAGATC CAAAA 795

(2) INFORMATION FOR SEQ ID NO:397:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 601 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1298UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:397:

GATCTTCTTA CTGGACTGGC TGCTAGAAGA TAAACGATTA TGGCTACGTC AACTGCGGAA 60
 CTCGTGGGCC GCCTTGAGG AAGCGCAGGT GGCACCCCTT CCAGGTGGCG CTGTGGTGGT 120
 25 GGTCTCAAC CCGAGTCAG TGACACAAC GGAGCGAAG ACGATGGTTT GGAACCTCCG 180
 CCGTCGGAC CTGTACACC AGACACTGCG AGCTGCATGC CTCAACACCG GCTCGGCGCT 240
 AGTTACACTT GATCCTAATA CTGCGGCGA AGAGTCATG CACATATGTG CGCTGCTTGC 300
 30 GGGCTGCTT ACATCCCGTC CCGTCGGAT GCTAAGCCTG CAAAGTCTAT TCATCCCCCA 360
 CCGTCAGAT TCATCGGCA AGATCTGCAC CATCGGCCC GAGTTCCCTG TTGCTACGG 420
 TGTGACAA CGATTTTGT GAGCTGACA TTGAGGCGG CAATTGCTCC AGAATTACT 480
 35 CCAAGAACAC TTGTGCCATC TGACACCCC ATGCTAACA GACCTACCA CCCCCCTTCN 540
 GAAGCAACG CTGTGATTC NATCTCNAG GTNCTCCCT ACCTATACCG CTCTTGTCAN 600
 A 601

(2) INFORMATION FOR SEQ ID NO:398:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1299RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:398:

GATCTCCAC ATTGAGACCG TAGCAGCCA CATATTGCGC TTGAACGCA TTAAACCGCG 60

CCATTGCTCC CATAGAGCTT TCAGATTTC TGTTAGGCTC CAACTCAACG TCATACTGGA 120
 GTTTAAATCG AGTGGGTGCT GTTGATATCC AACTTGGAGG CGTTCTTTTT GTCTCTGTAT 180
 5 CGCTTGAATA GCGGCCAGG TCCGTGGCG AAAATCCATA TATATCCATA TTGGCCACCC 240
 AGCTTGTAC ACATAGAGGC AATAGTGCCA GTAATGCCTC GAGCCGAAAC CATGCAGCTC 300
 CCGCGGAGG AGGCGCCCG CAGCGTCGG TTCCATAGAC GCGAAGCCCG GCGAGTGGG 360
 10 CGCAGCTCA GCACGCAGTT CCTCCCTGTC ACGGTATGTC CCCAGCCGC GGTGCGCACA 420
 CCCAGATACT AACACAGCAC AGACGCTGTA TCAGCTGATT GTCCAACCGG CGTACTATTT 480
 CACGTTTCTG GCGAATGTGC TAGTGCAAGC GTTCGCGCAG GCGCGGCGAG TCGCCATAGC 540
 15 AGTGGCGTTC TGGATGTGGA CGGTGGGCTT GGGCAITCCC GCGCGGCTG CCATTGTGTC 600
 TCGCGACGC GGTGTGGCAG GGTGTCTGCG TGGGTGCGT GTGCTGCGC AACTACCAAC 660
 TGGAGTACAT GGAGACCTAC ATTGCGAGCC TGCTCTGAC GCGAGAGGGG GAGTCTGTIT 720
 20 TTGCGGATG GGTCCCGGC GTTGGGGGT TCC 753

(2) INFORMATION FOR SEQ ID NO:399:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 751 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1299UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:399:

ACGCTTTTGG TTTTGGGCTT GATGGTGGGT GGTGTATAG ACGATGTGAT CTCGGGCTGC 60
 AATTGTAAGC CTCTCTCTCC GGAGATATCC CGCAGGAGA AGTGTCTAA ATTTAACATT 120
 ACGTTCATGT AATCACAGGG CACCTTTTCA AAGACACAGA CGATCATGCC ATTCTTACGC 180
 40 TTTGCCACA TGGAGGCCA AATGAATTTC TGTGTATGCG AGGATGCTGA CGATGCAGCT 240
 GAAGCAGGAG ACGACAGCGA TGTGAGGCTT GGTGTATGA CGCTACTAT TTCACTGTG 300
 AATACTTGT CTGGCCCTC TGTAGACATA ATCTGTGTA GGACAAAGCT CCTGCTGTG 360
 45 GTGTGTATCA GGTCAAGTAA AGTAAGCGC TTAAATGCCA ATTTGGAGAT ACCGAAGATT 420
 AAGCATGCCN AATCGTTAGC CCGCTAAAC TGCCATGGGT GATGCTGGA ACAGGTAAAT 480
 ATGGCTGAG GTGCTGTGTA CTTACCTGAT ATAAAAGTAT GCAGTATCG GCGGCTTCG 540
 50 TACGTTCTGC TGTAGTCTAT CGATCCTG ATAGATGTTA GTTCATCGGT AAATGGTTG 600
 AGATAATTTT CGTCTGGA GGCCTGATA GTAGTTCTG TGTGAATAT TCATGAAATG 660
 GTTGGCTAA GCTTCAAGC AGCTCTCTT TTAGTCTTG CTCATTACTG ACTTCTTCG 720
 55

CAGGATCTAC GCCATCGCG TTGGTGCTGA C

751

(2) INFORMATION FOR SEQ ID NO:400:

5

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 777 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

10

- (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1300RP

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:400:

	GATCTCTCTG CGCGGTGCAC AAATGACGCA GAAACAGGCA TTCACGAAT TGAAGAGGCC	60
20	TCAACTGCGG CCGATGCTA CAGGCGCAGT GGGACGACAT CCTTTCTTTG GTGGGTATGA	120
	GGATACCTAA ATAAGCACAT ACAAACGTT AAATATGCAT AAGGAGATAT ATGGGAAAGT	180
	TAAAGTGTTT TTATGGGCC TOGGCCACAG TTGGGTGTTT CAGCGATAAT GGGAGACCAG	240
25	CCCGGCAGT GATCAGATAC GGTTGTAGTG GCCATACGGG CTTGCGGACG AATCTACGGG	300
	GTATGGTGCC TGACGCTGCG CCGGCGGCGT CTTACGCTGA GTTCCCCACA GCGGTTCCTC	360
	GTACTGGTTG ACGTCTTGTG CGTGACAGC CCTCGTTTG CCGTAGGGG CCGACTGCC	420
30	CCCCGCTTC TGCGCTCGA GATCGTAAAG CTCGTTGCTG CTGCTGAAA AGCCCTTCTT	480
	GCGCTGCTG TAGTACTGCT CCTTGGCGTA GTACCGCGG GCGTCCGGG TTACTACGGG	540
	CTGGTATACC ACTTGTGGG CCGAGCATAT ACTTGTGCAC GCTGCTTCTC CTGGCGCGG	600
35	CCGCTGGGG TGCGGTCTAT AGCAGCAGCA CGGCCAGCAC AAGAGTGCA GATTCCNCTC	660
	ACCCCCCAT AAACNCGAN TTACACCCC TATCCNATAC CCAATTGACG CTACNCATCC	720
	CNCTATACCC CATCNITGCA CNGGTTACCT ACTTTTCCCN AANTGACCCC CACNTNC	777

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(2) INFORMATION FOR SEQ ID NO:401:

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- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 812 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

50

- (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1300UP

55

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:401:

	GATGAGGAG TTTCCTCTG AGGTGCGCG CTACATGACG CTGCTGCGG AGATAGACCC	60
55	CAAGTGGTG CACACGGTG CCGAGCTTAA CCGCAGATA GCGGCTTCC TGCTGCTC	120

GGGCAGCGG GGAAGCCCGC AGCTGCAGAC CATCAACCGG CTCTTCCAGG ACCTGATGCC 180
 GTGCTGGAG GAGAAGATGC ACGTCTGCTC CATTTGCGTTC GAGACGCTCG ACCGCTCGT 240
 5 CCGCGCGCTC GAGCTCGGT ACGAGGTGCG GCTCAAGAAC CAGGAGATCC CCGACAAGCT 300
 GCGCTGGGC AAGGACAACC ACCCTGCCAT GCACCTGCAC CAGGAGCTTA TGAAGAAGAT 360
 CGAGTCCAAG CAGCAGAGCA AGTGCAGCA GCGCTGCGC TCCGAGTCCC GCGCGAGGC 420
 10 GATGGCGGCC AAGAAAATGC AAGTGGACCC GCGGCGCGC CGCTGCTCT CAAAGGCCCC 480
 CGCTCCCGNT GGGCCCCGGG CGCCCTTGG CGGCAAGCG CCGCGGCAA CTTTCCCCC 540
 CGCCCGCCGC GCNAGCGCAA GAAGCCAGG AACAANTACT CCGCCCGCCC CCNAAACAAC 600
 15 AATTTGGGA AGGCTCTTA CTGCTACTGC AACCATTGNC CCTACGGGAA AATGTGGTT 660
 GCGAANGGA AAAATGCCNC TGNATGGTCC CTCCCTGGA TCACTNAAA CCTACOGAN 720
 GGGAAATGTT CTGCAANAAT GCAAAAAAAC CCTACATACA GNCGGTTAC TANNITCCCC 780
 20 CCNCTTNCN TGCTTNCN TGGGTTCNC NT 812

(2) INFORMATION FOR SEQ ID NO:402:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 786 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1301RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:402:

GATCCGCGAG ATTCACTGTG GACCGCCAC AGGCAATTAC TATAACAACA TCCTCGGGT 60
 TTAAAGGACC TAATCAGCG TCAAGTATTT CAGGATGATA TCTAGATGA AGAGCTGGC 120
 40 CACAAGCTGG TTCGGTTACA ATATTGCTCT CTTCGCAA AATTTAAACAT GTCTGTACTA 180
 CAGCGAGCTG GTCAAGCACA ACAGATTTTG TCCTGTATTT TTGGCGGTAA CTCAGAGTAA 240
 GATCCGTCAC GAAAGATGTG CATAAAGAAG TAGCAAGCT TTTAGGATTC ATCGAAACGT 300
 45 TCCTGCCAG CAGCAAAGAT CTGTGCAAAA CCTCGCACC CTCTGTTTC ACTGCTACAA 360
 CAGGGATAGA GTCTGCCAAA CCATGTTTCT CCAGCCATA TACAATCCA TTATATAACC 420
 CCGCGCCACC TACGCTGAG AGGATACCTT TCACGCTCTC CAATTCACG CCTTGGAGAT 480
 50 GCAGTCTTC TACTACTTCA TCTACCATG TTGCATGCC TTCCAGATG AGTGGTTGTC 540
 GAATGGATGT GCATATATCG GAGGACTTT TTCTAATTC CATTCGCCAT CAACTCGGA 600
 CCGTAAGTTA TCATGCTCT CTTCATAC ACTTCCATT GANATCATAT CNGCCCCGT 660
 55 TGANCGTTC CGCTTACCT CCNCGCAA TTTTTCNGN CCTACNCGG CAGGINTCT 720

NTTNNCGTGA CCGGTGGTGC TGCACCCNTG CNTGCNCCGA CTCCCNAAAC NTTTGGNTGC 780
GNGAAG 786

(2) INFORMATION FOR SEQ ID NO:403:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 782 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1301UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:403:

GATCATCTGC GTGCGATACT GGCAAAAAAT GAGAGACAGC ATGATGAAA TATAGTTAAT 60
AAGATATTGC ATGATATAAG CACAGGCGGG TTTCGTGAA GAGGAAAGGG TGCACTTGAT 120
CTGGAAATGA GTGAAAATGA AGACCAAGAG TTACAACAGT TTAGACAGAA AAGACGAGAA 180
CTTTTGAAAC AAAAGATATT GGAAAATGGT GATACTAGCA AGCTCGTATC TAACCCCAAG 240
TCATACGCCT TTTTTCAGAC GATGGTGGAC GATGTTACTG AAGCATCATT TGGAAATACA 300
TTTGATGCCA ATATAGATGA AAAACAGAT CCATCTGCTG CAGGTGGGAA AATTGTCATA 360
TCAGAACAAT TTGTAAAGGA AACCTGTCA TTCTTGTCGA GCAAGAGTGG CGACTCAGAA 420
ATCCCTGCAG AACTAAATC TATTTCAATC AGCAGATTG AACGTGAAGA AATTCAAGAC 480
TTCATACATT GAAGCAAAAT AGTAACATTA ACATTTGAAA GGAGTCTAGA CTTCCTGCTC 540
AGATGGCTGA CTCAGCAGTG AGATAGAGGT GATTACNGCT TTCTTTANAT ANATTCCNEN 600
GCGCNAAAT TTTTATATGA ACTACTTCAC AANANTTTTA AAGTTGGCCC CAGGGGGGCG 660
ATCTTAAGGG AATAAANATN GCGTCCAAGC CCAATACTTT TNINGGAAAN NGTINGGGTC 720
CCCCNAAAG GATTTAAAT CNACCAACTT NTCNCCANN ACCCCCCCCC TINTTTTCNG 780
NG 782

(2) INFORMATION FOR SEQ ID NO:404:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 785 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1302RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:404:

5 GATCGAAGAG CTCTCTGCTG ACTTCGAACG GCACAAGGTA CCCAAGCTCC TGTAAAGAGT 60
 TATGAAACTC CGTAGCGGAA AGCGTGAACG AACCGTTAAT ATCATTGTCC ACATATATCA 120
 TCGGCCACTT CTTCACGCGC TTGTATAACG AAGTAAACTC AGACAAGTTT ACGGTACCAA 180
 AGCGCGTGCC GCCAAACAGG CTAATTAGCG CGTCCACCGA ACTCATGCAG AACTCGGAAT 240
 10 TGTATCATT CTGTAGCAGA TGCTGTAGCT CCTCTGCTGT GAGACGCTCC ATCTTCCGGA 300
 CGTCGTGATT CATGAATAAT TTCTTTGCTG TTATAGCATC GGGTCTTCA TTAGGAACGG 360
 TGGCGGCTT GGCTTGGTA TGGTTGGGT GAGCTGCTG AGCTGGCTGC GGCTTGCAG 420
 15 GCAAATATA GCTCTGTGG CTGGTGGTA TTGGCTTCCC GTGGCCCGGC AGGCCAGGCG 480
 GGCTGTGGA ACGCGAGGAG GATTTCCTG AAGCTGCCA ACGCCATGCG CAGGCAACTA 540
 CTATGTGTAC AAAAATTGCC GTGTCCTGC AAAACCTTTG GTCTGTACAG AACCCANCCC 600
 20 ATGGCCCATG GAACGGNITG GNTTTTGGC CCAAATTAA CCCTGGANAA NTGGGNAATT 660
 TTGGCCATN TTTCCTAAT AAAAANGNG GGGTNAAGT GGNAGGNGC CCATNNGGG 720
 25 GGNAAANIC CGCGCTTTT TTTTTCAT AANGNCCNC NTGANNNCC GCGCCNNNNC 780
 CCCAC 785

(2) INFORMATION FOR SEQ ID NO:405:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 803 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1302UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:405:

40 GATCAACAAC ATACTTCTAA AGACATCAAT ATACGCGCGC ATGTCTCCGG ATGAAAAACA 60
 TGAATTGGTT GAGAGGTTGC AGTCCATTGG ATACCAGGTT GGCTTCTGCG GCGATGGTGC 120
 45 GAATGACTGT GGTGCCCTTA AAGCGGCGA CATTGGTATA TCTCTATCCG AAGCGGAGGC 180
 ATCTGTGCT GCGCCATTTA CATCCCGCTT GTTTGAAATC AGCTGTGTTT TGGACGTAAT 240
 GAAAGAAGGC CGTGCGCGT TGCTACGTC CTTCGCTGT TTCCAATACA TGAGCTTATA 300
 50 TTCTGCCACA CAGTTTGTTA CAATATTGAT CTGTACAGC CGTGGATCTA ACTTAGGGGA 360
 CTTCAGTTT TTGTACATG ACCTCTTCTT GATCGTGGC CTAGCGGTGT TCATGTCTTG 420
 GTCGAAGCCC TATGAAGTAT TGCCAAAAA GCGGCCAAG CCAATTTGGT TTCTCGAAG 480
 55 ATATTGATT CTTTGCTGT GCACATGTC ATTTGTTGT GTTCAGCTT GTCCGTGGC 540

TOGCAGTCCA GCATATGAAG TGGTACCGGC AGCCAGTGGT CGGACGACG AACATGTTGC 600
 TTCCGANGAN NACNCAACCC TTTCCTNGTC TCCACTTCCA TAAACCCCTGG TCCCAATCNT 660
 GCTTCCGGTN GTCCNCCCN NCCNCNAACC NAANTTCGAA AATTTTGGTT TATGGCANIT 720
 CCCCCCTCCC TGNCCCTCCC GGTGGANNAT TTCCCCCCCC CGAAACAACCT TGGCNCCTTT 780
 CNETCCCGAA GTTNCCTCAT NTC 803

(2) INFORMATION FOR SEQ ID NO:406:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 773 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1303RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:406:

GATCAGGTGC CCTTTATGGC CATACTTGTT GGACTCATAG TATATCTCGG CGACTGCACT 60
 ATTACTGGAC TGCTTGTCAA GATCTTGGCG ACCCATCAG CCGACTATAC TACATGTCTC 120
 GTTGGGCTTT GCGTCGCTAA CCGGCAGAAA AGATACTTTT ATACTTTATA ATACCAGTGA 180
 GCGGCCCATC CCACGTAATC CATCTTTGTT GCCAAATAAT TACAATATTC CTTTITAGCTA 240
 CTGGAATTGG GCTTATCCTT ACAGTGTGAC ATCAATTTTC TATCGTAAIT CGCTATCTCC 300
 GCTCGCAATC ACTGCACTGC AAACCATAT ATCTCTGATA GATAAAGATT ATAGGGTAGC 360
 GATCAATAGT ACCGGTAAAG GCGTGACAA TATTCTGCTG GCGTGTTTA GATGGCOGAG 420
 ACCGTAGAAT GTGGAGCAT GCTGGTTTAG CGATATGGA AGCCTTCACT AGAACCCCTGC 480
 CACTAGTAGA GCACAGAAG TTGAGACTTA CAGCTGTTG AAGTATAAGT TGTAAATTTT 540
 CAAGGGTGGC AAGTAATATC AATTGATCN AAATGACTTA CCCCTACGTT GAAGTGCTTA 600
 CTTTAANTTG GGTGGGGCCC ATCAAGCCCT GACACTCTTG ACTTTCCCCC ATGAAAAAAC 660
 TCCCCGGTGG GTTCNANCC CATTNCCCAA ATACANTCCA TANGTCTGG CCTTAACCA 720
 CTGNTCCG AGGATTTTTT TNCNAANAAG ANNNNACTTT TNAATTTGC CAC 773

(2) INFORMATION FOR SEQ ID NO:407:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 807 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1303UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:407:

5 GATCTAAGTC CTCTCCCCCA AGCGGTGACG CAAGTGGACT GTCTGTGGCT CCGTTAATAA 60
 AGTTATCGAG ATGGTCCACA AGCTCATCCA CCTCGGATAT ATGTGGCTG TGAGTAGGG 120
 CAGAGTCAAG TGGCGTGTG AACGTGACAT CAGACTTTG GAGCGGGCTT CCTAGCTCAG 180
 10 GGTCCAAATC AATGACACC TTTTCCAGCT CTGCCAGCA GCGCAAGAAC TTTTGTCTA 240
 ATATATAGTC GTTAGTTTGG ACCACGCAAG AAACCGGTG TTCGTGGCTT CCTGACGCTC 300
 TCCCGTGTAC CTCGGCTGG CTGATGACTT TGCCAGTGA TGGGTCAAG CTCTTGAGA 360
 15 TGACTTGATC GGGGACTGC CACTTTGCCA ATGAGGATC GTCTACAGTT GTAAACGGC 420
 GCACTTTCTT TTCTGTAGGT GCTCGGCTG CTGGTACTG ACTCCTCTG GACTGTCTG 480
 GCTTACTGG ACCTGCTGCT GCTGCTGTGA CTGGAACCA AAAAGAAAA TGACTTCCC 540
 20 TCTTTTCATA TGACATCCC NGTGTGANA CNTACTATTG GCGCCNAGAA AATAANTTAG 600
 GNGAAATAC ACTCCTATG TTTGCTATA TTTCCNTAC CATATACAGC CTGCTGATTC 660
 CCAGTTTAN AANTTTAAGT GCGTACCTT ATATGTTGAA NCCCGTATA TGAAGAATA 720
 25 CCCCCAANT TTGCAANGAA CCGGAGGC ATTGCTCTT TCANCANNAT TAAGNACATT 780
 TTGTCTTTC AAGNACTTAA TAAGNCC 807

(2) INFORMATION FOR SEQ ID NO:408:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 778 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 35 (ii) MOLECULE TYPE: DNA (genomic)
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1304RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:408:

GATCAATGAG CGTGGCTACT ACTGATGCTT ACTGCAGTGC TGTTGCAATA TTACATATCG 60
 45 GTGGATAGCT AGATAAAAAT GCTATACATA TATCTGTGCG CATTGTGCCA ATCTATATCT 120
 ATTTGTGCGG ACGTTGCGGA CCAGTAGGAG GTTGTGTTC GCGCGGTGG CAAATTCCGC 180
 TGAGATCAAG CCATGGCTG TGCTCTTGGC CTCCCCTAGA TGGTAGGTGC CACTTGTAAT 240
 50 AAAACGAG AGATCTTGTG CCGCGGCGAG AGGCTGATCG GCGTCATGG TCCGTTTGCC 300
 CGCAGCATTC TATTTCTG AAGGACTGC CTGCCAATGG GCGAGATGCT TGACAGGCAC 360
 TGCATACAAG CGGCATTGT CCTGAAATG GCGCGTTCG AGGCTGTAC AGACAACGGC 420
 55 GATCACGGA AGTTGGGTG TCACAACAGC CAGTTGGAG GCAAGCCTG TGTCATAGG 480

AGGTTTITGA AAAAGAGACA ACTGGCTTAT TGTAAGGTC CCGGGGANTC NCNAAAAANAA 540
 TCTTGGTGGC AATACCAACN CCTAAGGATT TCANCGNGTT CCCCAACTIN ATTNINTTTN 600
 5 TNGCNCCCGT TTCAAATTC A TATNGGTGGG TTGNGGCGN GAATNTTCTT TTNATTTCA 660
 AACCAACGNG GGGNGCCNT TTGAGATTTG GANACNCCC TCNAAANANA NTGTGCCCT 720
 TTNCCNNA AACAAAATTN NGGAGGAAGA GGTTTTANCC CNNTATATNC CCCNCCN 778

(2) INFORMATION FOR SEQ ID NO:409:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 792 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1305RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:409:

GATCAATGTA TCATTATAC CCAGCTTTCG CAGCGACATA ATATATTGAC TTGATTTTAA 60
 AGCGGTAGAA CTTTACGGG CTAGGCGCG TAGGTATCCA AGGTTTAGCA TCAGGATCCA 120
 CGTCTGCAA GCACTTCTGC AAGGCTGGAA TGGGCTGGAG TACTTCGAGC TCACCCGCGA 180
 30 AGTTTGACG AGGTGCTTTC ATGGGCTCTT CAATCGATAT AGACGCAACT GAGAAAGACA 240
 CGTTGTATT GTTTTAGCG TTTACTTGTT GTAGTGTCT GTGACCATC AAAAAAATGG 300
 GCTGGCGTC ATGCTCTACT CCTCACATC TGTCGGGAGA AATATAGTAC ATTCTAATAC 360
 35 CATATGGAGT ACCGTTTGA TTGATTTTG TCAACTGGAA AGAAGTTTCG TCTTAATTA 420
 ATTTCTGAG TTGACTGCT GCTGTGTGT CCTCTGCGA CGCTTGGCG AAAGCCGAG 480
 TAACTAGTGC CAAAAACAT GTAACATG AAAAAATCGA CTTCATGTT GCTATTGAGT 540
 40 GCCAATAGC GAGACTCATC CATATGTNAT GAAAGGTTT ATANATNTT GTTNTGGCTT 600
 GAAAGAATTA TTACTTTT CNGGCGGT ACATTATCTT CCAACCAAT TGTTCCTTT 660
 TNGANAGNA ATCCCCAAA TTTTINAAAT TAATNGTCN NOGCANCGT TTTTCCCCG 720
 45 GNGGGAAAA NAAAGCNGN NACCCGCCAA ANCCGAATAA AGGATTTCCA TNAAAACCA 780
 ATTNTCCNAA AC 792

(2) INFORMATION FOR SEQ ID NO:410:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 812 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1305UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:410:

GATCCCCAAG AAGAACATCA AGATCCACGG GTTCTAGGCG CTATGTACTT TGTGTAATC 60
 AATACATATC CTCTCTCTCC TCCACCACCA CCACCTCTTC CTCCACGTCC CTCTGCGCCT 120
 CCGCATAGTA CTTACACAG TACGGGAACA GCTCTCGCT GAACAGCCTG GCCAGCTCGT 180
 CGCGTTGGC AACTCTCTG CCGGCGCGCT CGCTGTCCA CCGGAACCAC GCAAAGAAGC 240
 TCCCGTCGTA GCGTTTGGC CACTCATCT CCACCGCGC GCTCCGCACT TCCCGTCTT 300
 CCCCCACGT GAACTGCTTC CTCACGCTCT GCGCCCGCAG CCTGCCCTCC ACCTCCCCGA 360
 ACTCCACGT GATCGCAAAG TCCCACGCC CCGCCCCCGC CCACTCCACC TCCACCCGCC 420
 GGATCGCCTC CAGGTACCGC CAGTCCCGCG CCGCACGTA GTTCGGGAAA ATCCCCGTGC 480
 TGCGTCAGCA CGAATCCCC AGAACCCCGC GATCCCTTCG ATCGCCTTGC TGCGCCGCGC 540
 GTATACCGGC CCCAGCGCG CTGCGCTCC ACCTCCAGCG CCGGTCTTC CCGCTCCCGC 600
 NCCGCTNGGA NTCCGAAGN GCTCCACGNG CCGGCGCTGCN CCGTTAGTC CCGTGGCCGC 660
 CATTTAGNG GGGNNGGCC TTNNITGTTT NNNGAAGNA GNGTCCCGT TCCNGGGCCG 720
 GVINNGTTTT TGGGNGGAG NACGGNGTTT TTGGANCC CANTCNGGA NTCTGGNGC 780
 GAANGGNGT TNCNCCNN TTGAGCCCC CT 812

(2) INFORMATION FOR SEQ ID NO:411:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 778 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1306RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:411:

GATCTGATAT TGGTAATTG CAACCTTTGC ACCGCTTTGA AAAGTACTTT AGGAAGTGGT 60
 ATTTGCAATA TAGTTCATCA TTGTAGTGA AGCACGAGGA TACCTTACAC TTGGTACCGC 120
 AAACCGTGCA GCAGAAGTGT TCTCGTCAT ATAGCTTACC AAATGTATTG TAATACACGC 180
 CGCTCAGTGG CTTATTGCAC ACATAACACA ATAGCTTGTT CCGCGTGAAA TAATCCTGCT 240
 GGCATAGCAG TACCACTTCA GACGTATCG GGAGCTCATA AGGGAAGAAC TTGGGGCGAC 300
 ACAAAGCTCC ACAATCGTGA CAAACCAGAC AGTTTTCATG GTAGTAATCA CCAAGCGCCT 360

TCAGGGAGTT CTGCGTGATA ACCCCCTTGC ATTGTTTACA GATTTTGCCC GTTTTTTGAG 420
 ATGAGGTGGC GGTTTATGCT CCGCAGACGT TCGCATTACT TGCTCCGACG CACTGTGTCT 480
 5 ATGGTTGATA TGGTCACTAT ACGTCCAGCA ATAGCTGTGC TTCTGTATAT TAGTCATGAA 540
 AAACAGTAGC ACTCCCTATC TTACCCCTGC NGATCGTATT GGTACCGCCA AATNGTTAAC 600
 CCATTTTCCA AGAACATTCT ACCNCTTCCG TTTTGGCCCA AAGAGAGGTN TGCTATATTT 660
 10 GCCAACAAAA GCCCAACTGA AATTNAANAA ACCCTTTTTT CCCCTTTTIN TTCTCCCGA 720
 GGAACCTTTT CGGCAANTTT CNCCCTAAAT TGTNTGGGGG NTGANANCCN AGAAAAAC 778

(2) INFORMATION FOR SEQ ID NO:412:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 806 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1306UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:412:

GATCATTTCA GTGGATGGCG ACATTCATAT GGATATCAGT TCGACTTTTG TTTCCAGTCT 60
 TATTCCACTG ATTTTCAGGT TACAAGAATT GGGAGGGGT CTCCATTTTG TAGGGACGAA 120
 30 CAATTGTAAG ATGTCTCAGG AATTCAAGAC TCAGGTGAA ACGAAACTA TTATCTTATC 180
 CCTTCCTGTA GGGGACGATA CCTACAGAT GATTATCCAA CCCATCTCTT ACGAACTGTC 240
 ACTACATACA GTTTTCACTG ATTTTATTTT CATATCTAAG GTACAAAGCT CGGAACTAG 300
 35 GGATATCGCA ATTATTCGGG AAATTAAAT TCGATATCAA ACAGCCAATT TTCAAGTGAA 360
 ATCGTACAAC TTGAAATTGT CGGAGACGT GCTAACATCA AAGCTACGGG GGAGTGTGTC 420
 TOGAGCCGTT GAACTTTATT GTCTGATAG TGACATCAAG TTGCTTTTGG ACGAATGTCC 480
 40 CCCCCCCGA AATGAATACC CGCNATNINC ATTCTTNAAC CGAATTOCCA AAACCCNTIN 540
 TNAANTAATC CCTTTAAAAA TTNATTTTTC CCNAGNITT ACNCCCGCNA ATTTTITTC 600
 CAAATGGGCC CCTTANATGA AAAAANACTN CACCCCCCN NOGAAAANAA ATTTCTCTTT 660
 45 GGAAANTINN AAACGAATTA TTCTNCCCT TTNTCCCCC CCCGAAANAC ANINTTCTCT 720
 CCCCCCTTT AGGAAAANTG TTTTCCCCNA TTINANANIN TCNCCCNCC CCNNAACNA 780
 50 AAATNTTAAA NCACCCCNIN TTINING 806

(2) INFORMATION FOR SEQ ID NO:413:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1307RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:413:

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10 GATCCCTTTA TCTCATATTA TAGTCCATAG TACCCCGTGG ATGCTACCA CACAGAGGTC      60
   CCTCTTCTGG AACTGAGACC TAGATATCTT GCGATATCAT TGAAATATC GTTCAATTGC      120
15 TCCTCGTGA GCCGCTTAAC TTCCGCTCG ATATCAGCAT CCGGTGTTTC CGAGATGTGG      180
   AAGTCTCAA CTTTGCCCTC CAAAACTCC TCAAATCTCT CTTGTCTCT CAGTGTGGT      240
   GGCAACAACT CATAAAATTT CGCAAGCTTA TACAGCTTCA CATGTCTAG ACTTTCGAAG      300
20 TCGCCCAACG TGAGAGGAA TACGCGTCC TTCAAGTCCG GAATCTCAC GTCCGCTTC      360
   GGCAATGGAG CCAAGAAGTC CTTCTCTCC GACTTCGTGG AATTCATAA GCGCGCACCC      420
   GACCGCTCTT CCATCGTGTG AAGCTGCCC TGAAGCTCCC CCACTAGCTG CACTAAGTCC      480
25 TCATTGCTGG CGAAATCCGT TGTATCAAAC TTGCGGGCGC CCCCCTTAGG AAGGAACTTT      540
   TCGTCTAAGT TTGCCATGTC ATGCTTTTGC TTGCTGACCT GTAGCTCCAG CACCGACTGT      600
   CCTGTCTTGG TGATTAGGAC GCTCTGCCGT TTAAGTAGCG CCTGTAGCTC CTCAACTGTT      660
30 TCTTCAATGC CTCGTCTGAC ATAAGCACT TCAAATTTAG TAGAAGCTT CTGAATATTC      720
   CTACACCAA CGCCGCAGAG AGAATGGTAA AGA                                     753

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(2) INFORMATION FOR SEQ ID NO:414:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 811 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1307UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:414:

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45 GATCCACCAA AGGGTATTTT ACTATATGGG CCTCCGGGA CAGGTAAGAC ACTTTGTGCC      60
   CGTGCGGTGG CCAACAGGAC CGATGCTACA TTTATCAGAG TCATTGGCTC CGAATTAGTA      120
50 CAGAAGTACG TOGGTGAAGG TOCTAGAATG GTTAGAGAGT TGTTTGAAAT GCCCAGAACA      180
   AAAAAGGCAT GTATTATTTT CTTGACGAA GTGGACGAA TTGGCGGTGC TCGTTTGTAC      240
   GATGGAGCGG GTGGTGACAA TGAGGTCAA AGAACTATGT TGGAATCAT TACGCAACTA      300
55 GACGGATTCG ATCCACGTGG TAATATCAAG GTGATGTTTG CTACCAATAG GCCGAACACC      360

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TTAGACCCAG CATTTGTTGAG ACCCGGTAGA ATAGACCGTA AGGTTAGAAT TCTCTCTTCC 420
 GGATTTGGAA GCGCGTGCCA ATATTTTCCC GCATTCACAC AAAGTCCATG AGTGTGAGC 480
 GTGGTATTAG ATGGAATTGA TTCCCGATTG GTGTCCAACT CCACCGGCGC TGACTIONATC 540
 TNGTTTGGCC CGAGGCTGGC ATTTTGTCAA TCCAATTCCC GACCCAGGTT ACCTACAGAA 600
 ANGACTTCCT TAAACCGTG GATAGGTCTT CCACGGCTAT AAAAATTCAC NCCCTTCCC 660
 CGTTTNTGTC AAACCCNAAN CNVTCNCCC CCTTGNCGCG TTTTITTAAA GGNITATTTA 720
 TCCCAAANG TMTCTCTTT ACNATACTAN TGTTCCAATT TCTATNAAAT NTINTCCCC 780
 CCGTGAAANC CTNCCCCGTT NGCACCCCTA T 811

(2) INFORMATION FOR SEQ ID NO:415:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1308RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:415:

GATCTGTCTG CTGGTACACC GATGAACGAA ATAATTGTGA CCGTCAOCCA CTTCGAGAAT 60
 GCACTTCGGA AGATAAAGCC TTGGGTGAGC GATAAGATA GAATGAAATA CAATAAGCTA 120
 AACAAAAAAA TGGGCTGGAA TGACGAAGCA GCGGTGCAAG TCGAAGAAGA AGCATAGAGC 180
 AGCAAGTTAA ATAGGCACAG CTATGTACAA ATAACCAATT TCAACTTGTT CAAAGTCGTC 240
 CCGTCTTAC AGATTTTACA CATGGAGAGC GCGGAATTTA CTGTGTATAA TGCCCTCTCC 300
 TCGGAAGTT TTTTGAATC TTCCAGACAT ATTCCGTATT TCTTCTTTT CGAGAAAGAA 360
 ACATATGGTA TTTCTCTATT CCTGTAACTT GAGCTTAGCA ATTTCTGTGG ATATAGTTCC 420
 GCAAAGAGGT AGATCCGTGG CACCTCTGAC AAGAACGAAG TTATTCTTCA GAGAATGAAC 480
 ACGGCCGGAT ACATGCCAG AATGTATATG TTCATAAACT TGGCTCCAA CATCAATGGA 540
 ATGGATAAGA GCGAGGTAA CAAGTCCCAT ACTAGTATAG TCCAGCGGAA TGCTTCAACA 600
 TTGGAATACC CGCACATGTC ATATCCGAG CTCTTTGATT GATATAACAA CCCCCNCCCT 660
 NTINTGCCNC AAAATTCACC CTGATGGTAC CCTAANGGT TCTTGCAAAA GCGGAACCTT 720
 ATCCCCCTGG AGCCNAAACC CTTTACGAGN AACNNATTAT GCGCCGGTNT TTNACGTCCC 780
 TNNCTGTCTN N 791

(2) INFORMATION FOR SEQ ID NO:416:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 817 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1308UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:416:

GATCAAGTGG GCGTAAGTC GCAGAGAAAC TTGCAACTGA ACTGCCACTG GGGCTCATGC	60
ACCACCAAGA CGTTAAGOG CGACCATATC ACCTCCACCC TGGTGTGCA TGTTCCTCTG	120
AAACCCCTTCA GCTGCTCCAC ATGCAGCCGT AAGTTTAAAC GCGCGCAAGA CTGAAGAAA	180
CACCTGAAAG TGCACATGGA GGACACCATG AAAGAGCGTT CGGTGCGGC GCGGGCTCG	240
CGTGGTGTTC GCAAGACAGG CGTTAACAAG GGCTCTGCG TACAAGAGAA GGCGGCGAG	300
TTACCCAACC TGAATGTGGA GAGCTTTGTC AGCCAGGAGA TGCAAAATTA CTACCCCTAC	360
TACAAAAGCA GACAGCACCT AGACGAAACA CTGTGCGACA TTATTCTCCC GCGCGGCGAG	420
CGCTCTAGGT TGGTACTTTG GGTTCGGAAC CGCCAAGCTA CACAAGGAAA GCAGTGTCTT	480
CTTCAAGAGC CTGTGCGAGG ACATGTCTCG TCGCTTGCCT TCTCTTGCTC CTGCAACAG	540
CGCGCGGCTT GCGGTGAAGA TGGTAATGCT TCGCGCGGCC CAGAACAGCA ATATGCAAGC	600
CGTGCCCTAG ATATCCGAGC GATGCGCGGA CTCCTCCCT TTGGTGACTC TCCNGGAGCG	660
AATCCCANCC TTTGCGCGAG AACACTTCC GACCCCTCC ATATCCCTGC TCTANCTGCC	720
CNCTCAGCG CTTTCTCATA AAATGCAAT GTTCCCGCAN CCTATCTCA TCAAGCCCCC	780
TGATANACCC TGNAAAAGAC TGANTCCCCC CCAAACC	817

(2) INFORMATION FOR SEQ ID NO:417:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 795 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1309RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:417:

GATCAATTAT TAGAGGCAAT ATCAAAGAAG TCCCATATTA CTGAGGAGAA CAGGGAACAG	60
CCTGGAGAAA GAATGCGCA GACGTACAGA TACAGCTGG AAAATCAGCT TCGCCAGTGA	120
GTGCTCGAAC ACCCGATAAG AGTAATTGACA GTGGTAGCGT GCAAGAGTCA ACGACAAAAT	180

GAACAGAACA TCATACTTCG GCGCGAGAT GTTGAAGCTC GACTTGGTCC GCGCGTGGAC 240
 CTTTTTTGAA GAAGTTGCGC CAGGATCCCA CGCGGCGCTT GCGCGACGCA GCAGGGACTG 300
 GTCTCCAGCG CGCCAGCAGC AGGAGCTTTC TCACCAAGCT CACAGAGCTC ATGCCATAC 360
 CCGCGGGGCG AGCCATGGGC GCGAATTGTA TGCCCCACGG AATGAGGACG CCCATGCTGA 420
 CTTCGGAGCC ATGAGAGAAT TGTACAGGAC TGCCAGAAA ATGTTTCACT TGACGGGTTT 480
 AACGTGGCGC GCGCGAGATT CGATGGCATA CAGAATGCGG TTTAGCGGCG GCGCGCGAGG 540
 AATGTCCCAA ACCACGATTTC CGCGCGGTTT CGCAGGAAGT CACTGTGTCC GGACAGCGAA 600
 ATACCGAGTT CACTTTCACA ATTGCCACAA TTTCTTTTGAN GCGTCTTCC GATAAGGCAC 660
 ATATNGTIN TTTTTCGCGC ACTGCGCAA NGTCCACTT GCGCGCGTGG TACTTTCCTT 720
 GAACATTTTG ACGGATNCCC AANGTGCAA ACTCTCCNC CCGTGTNNN CCATACCAT 780
 CCANTTTTTG GCGC 795

(2) INFORMATION FOR SEQ ID NO:418:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 797 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1309UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:418:

GATCAGGACC GCGGTGCTG ATTGATTTGG CCATGAGTTT AAGTATGACC CAGAGGGGCG 60
 CCTGGTGTA TCTAATCTGA TTAACATCGT AGCTGGCATC CAGAAGAAGA CTATCGGGC 120
 GGTGGAGGCA GATATTGCTG GATTTAAGGA CCACGCAACT TTTAAAACT ATGTTACAGA 180
 CATCTAGTA GCTGAGCTGA GGGGGGCCAG AGAGGAGTTT GCGCGCTATA TGAATGATAA 240
 ATCATACATA TACGAGGTTG AGGCAATGG GGCTGAGCGA GCAGGTGCGA TAGCTGCTAA 300
 AACCTGGCA GAAGTCAGAG CGATAATGGG TTATTAGTTA TATTCAGATT CCAACTTTGT 360
 CTATAGACTA GCAATAATTA TAAAGATACA TCAAGAAGAC CAAGAGCAGA TCGGTAACTG 420
 GTGTCACTC TTTCGACCTG CCGGATATCA GCACATGCAA CCAATATCTG CTTCAGCAGT 480
 CTTCCCGCTT CTCGTTAGCT ATTGTGCCAC CTGTATTCT CCATCGTTA TACAGCCAGC 540
 TCAGCACATC ATCATCTAT TTGAGGCCA TTCTGCTAGG CTGATGCAAT AGACTTCCAT 600
 ATTGGTAAT CATGTCCN TTATTTTTTA GGTACCACC ATCTNTTTC CNATGAAAN 660
 CGTGACAATC CNGGTTT TCAACCTCC CTCATNAAA TNCCTTCAT CGTGGGTTTC 720
 GGATCAANCC CTNNGGTCN TCCCTNCGC CTCATCNG GNATTACAC CCNTNTTTT 780

CTCCCCCTC ATNAANC

797

(2) INFORMATION FOR SEQ ID NO:419:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 830 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1310UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:419:

GATCCAAAAA AATTTTAATA CTGAAAAAGA AATGCCACAA CTAAGCTCAG CTACCTTAAA 60
 GAATCGGGAC CAAAGCTGTA AGGCAACAGC TCTTCCAATG TTGCTGCGAG AACCTTGGAC 120
 CCGTGGGGT TCATCATAAT CACCGTGAGC TTCTTGGGAT CAAAGAACTC GGGCAGGACC 180
 TGCGGGCAA TCCACACCG GGTACGAGC TGGAGAGT CCCCCTCAA TGGATGCGAG 240
 ACCCAATTG TATGCCCCGC TGTTACCGC TTACGACCG CTGTGCGTTC CCGCAAATA 300
 CCGGCTGGGT AACTGGCATT CTCGAGGTA GCGCGACAA TATACTCGC TGACGCTGTC 360
 AAGATGCAGC AGCCACGCG GAACCTGGAG TTATGGGCTG TACGAGAGCT CCTTCGCGGC 420
 TAGTGCTCGA GCAACCGCG CCTGATATG CTCCTCCTGT GTGCTTGCCA TTGGCTTCG 480
 TGGGTCGCG TCCTAGGTAT TGGGTTCC CTAAGTACTG GCTGCGAACC CTATGTGTTT 540
 TTGCAGGGGA ACGAATTGCG CCCGAACCG GTGAATCCG GGAACATNCA ANTACCCNCT 600
 TTTGGVINC GGGNAAAGG NNANNTCCN NNCTINGCNC CGGNGGAAN AAANAATGTT 660
 AACCATGTG ANTAAACCTT TAANATGANN CCTATGGCNC GTTAACTTT ATCCCCCNC 720
 CCCCCCTTT AAANGTNNNA NCCCCGCCNT TNTACCTCTA NNCGNGGGG GGNGCINNAN 780
 CCACAAATNN TNGTGTGNC GNGNGCGTN NCTAATATG AGCCTNGGN 830

(2) INFORMATION FOR SEQ ID NO:420:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 799 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1311RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:420:

GATCTATCG TTCAGGTAC CGTCTGCAAG AATCTGAGAC ATAAACTTGC GCTGCGACGA 60

GTTCTTGSTA AATTCTTGGT AGTACTGTGC GTTGTCGGCT TCCAACGCTT CCTTCCCCCG 120
 CTTGTACAGC AGCTCCACTT TTTOGGTGA GAGGGCTCT TGTGCGGAG AAGCTTCGGC 180
 5 GTCTAGCGGC ACCTCGTGC AGGCATGTC CGCAGGCACC AGAAGGTTGC CGCTGCGAAC 240
 CGAGCGCAGG TCATCGACCA TGCCGCGCGC AGTTCTCTCC CCGCGGACT CGGCATCGAA 300
 CCCCGCATCG GACTCGCCCG CCTCTCCGGC GGACTCGGCG GCATGCTGT CCTCTCGGC 360
 10 TTGCTCTTGG GCTTGTCTCT CGGCTTGCTC CTCGGCTTGC TCCTCTGCTT GCTCTCGGC 420
 TTGCTCTCTC AGCGAATCCT CCGGCTCGCT GCTCTCTGCT GCTGCGGCTG CCGCTGCTGC 480
 CGCGCGCAGC CCATGTTGCG AGCAGCCCCG TGACGTGCTT CTGCAGCCCC GCATCGCGCT 540
 15 CTCCTTGTGC GCGGCTGAAT GCCTGTTGCG TGAGCTGTGC TGGGTTGCT CAGGCTTCC 600
 ACAGCGCCAA GTTGTTCTTT CTNAACCCCC CANNGCCAAT NGTTCTGGGG CMTCATCCCC 660
 CMTTMTTCC CTGGTTTCCC CTTTGGTNGN CCCCNGGNAN ACTTTTCCCC TGGCTTNCNN 720
 20 CAATCTCTTT TTCATTGGT TTTCCCCCA AAATTTTAN ANNGGTTAN CMTTCANN 780
 NGCNGNNA GAGAAACT 799

(2) INFORMATION FOR SEQ ID NO:421:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 790 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1311UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:421:

GATCTCTGA TGCATATTC CGCTCTCACC TTGCGGTTA AGTTTTTCCA TGTAGATAGC 60
 40 TCAAAGTCAT CATCCCGTC ATCTTTTICA GGTATAGAT TGTGTGATC TTCTCTTCT 120
 TCTCTTCTT CTCTTCTC TTCTTCTCG TCTATATGAT CTTCGCTGT CAGTTCATTC 180
 TCTATTCAT AATTGGGTC AACTTTGCG TTGGGCTCT TTGCTGGCT ATGATCTTCC 240
 45 TGGATAAGTT TCTGTCCATC TGCCAATCC GTTTTCTCAT CAGTAGCTTC CGAACCGGC 300
 ACAGTATGA TTTGTTTGA GCTAATTGA TTAATACGT CAGATCTTC AAGAGGTCCT 360
 TTGCCAGCAT GACTTTCCGA AGATTTGAG CGTTTACCT CAGGCGCACT CTTACCCCGT 420
 50 TTATCTGCAG GAATGTATC CTCATCGTCT TCATCTTCT GTATGCTCTG TATGCTCTC 480
 CTCAGATGC CGCCCTTAG CTGTCCCTAC ACTCTTATC ATCTCTCTC TCATATCTAC 540
 CTCTTTTCA GTCTTCTCA CTCATACTAT CTCTACCACA TATCAGGATA ACGTATAATG 600
 55 GTGTGACTTT TTGGATAGC ATCTCTGGC CTAGGAAGC TNGGTTTCG AATATAATTT 660

AACATCTTCC CAATCACAAA TTNCTCAGTA ACNGTGGTAA ATTNAACGN AANTTTTTTAA 720
 CTTTCCATAC GGTITANGNC CCATGGCTCT TGAAANCGGA AAAATCCGGG GCCCCCTTIN 780
 5 GAAC TTGTTT 790

(2) INFORMATION FOR SEQ ID NO:422:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 788 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1312RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:422:

GATCATCTC ACCAGTACAA ATGTATATTT ATATGTAATT GTCTCTCTCT GCTTTTGCCA 60
 TATTTTTTTA TTTTITGTGG TGACAGCGTG CACTGACGT GACGCGCAAG CCGCAGGCGC 120
 25 GATTCTTCGC AACTTTTCGT CAACGCGCGA CAGACAGTCA GAAAGTAATA GGAAACAATT 180
 AAATACGTTG TTATGTTATA TGAAGTTATA CATAAGTGGC TGCCATCAGG TTATATATTG 240
 CTTTAAATAA CCCATTCGTC TGGAAACCTC CTCTGTGAAT GCCTCGCTCA AACCGGGATG 300
 30 GTTCTGTTTG ATCTCGGGCA AATATTACTG ATAATTGATC TACAGCGTCT TTTGCTCTTT 360
 GAGTCGGTGC TCTATCACGG ACGGCTGTA ACTGTAGCGG ATAACATGTT TAAAGAAGTT 420
 TAGTTCTTTC TGTGAAGGAG CAGCAGCTTT GAGTGCCTTT TCATCATAAT ATTGTTCAAG 480
 35 GTAGGAGAGG AGGTAATGTT TGTCTCTGGG TTCTTTGAAG GGCTGGATAA TAATGACTTG 540
 ATTGTGACTC CTGGTGATGG TACATTTAAC ATGCCAATCC CAGTTCCCAA GTTAGATTCT 600
 TACCGGTTTT GTTATACCTT GTTTNATAAG GGTTACTTTG CCCCCNACT TGCCAAGAAA 660
 40 TCATCTTATC CCTTIGANAG GTACCTGTC CCTTAATTGT AAACCTACNC CCTTTACAAT 720
 CTATGCTTAT ACCCGGCAT TGTCCCTGAA GGATTTTNTT ATTAACCTG CACACATCCC 780
 45 TTGGCTGG 788

(2) INFORMATION FOR SEQ ID NO:423:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 769 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1312UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:423:

5 GATCAGGCAA AGGATTCTTA CTCGTATGTT GGCAAGAACC TGTCACAGAA ATCCGACAGC 60
 AAGTGTCTTC CTCGGAGGAT TCAATTTGAA CTTCAGAGGT TTGACTATTT TCACTCTCTA 120
 CTCAGTATG TTGTAGGATG TAACCTCTGT GATTTTGTCTG TGTCACCTGC GAGGTTTCAA 180
 TCTTCGATCG ACCCTAATAA TAAAAATACA AACATGCACC TCGTGAAGAA GTATCGTTCC 240
 CATTTCTTAC CATTTAACAA GATAAAGAGC CAACAGCGCA TAAGGCTTTC TAAAGTGTCC 300
 AACTATTCTG ACTTGAATGA CTCTACCAA CTTCATCAG CTACCTCAGA ACCAAATAAG 360
 CCCCACAAAG AAGGACTCTT ATGGTCTTAC AGGAATAATG GATGGCATAA ACAGTGGGTG 420
 GTACTACAAG GATCAGAGCT CTCAGAATAT TCGATTGGA AGACGAAAC TAAGGTGCTC 480
 AGCCGACCGG CCATTAATTT GAGCTTTGTG TGTGTTAAAC GTTCGGAGAA AAAGCCTAAC 540
 GGATTTGATA TCATAACTAC CGACGGGAG GCTCGTTCTT TCCAAGCAGA GTCAGAGGAT 600
 GAAATGAAGC AGTGGCTGTA TGGCTTCAC TCTGCTGTG GGATAATAGC CATTGAGGAG 660
 ACAGATGAGA ACAAAGATCC ATTGTCTATT GTCCGTAATG CGGATCCGTC AAATAGTGCA 720
 25 TGCTGTGACT GTCGGAGCGA TAAGCAAGTG AATGGATATC TCTGAATAT 769

(2) INFORMATION FOR SEQ ID NO:424:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 799 base pairs
 30 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1313RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:424:

40 GATGTGTCT TGCTGACTTG CATGCTAGC TCAGTTCTTT ATTACCCGCC TCATGTTGAA 60
 ATTTTCAGG AACCATCGCA CCAATGTAC CGATGATATA GATTACATCT ACCCTTCGGC 120
 AAGCCTGGAA GGAAGCTAGA CCTCTAATCT AGTAGCTTGC CATGTACATC CCGCATCCG 180
 45 ACCCGCAAG ACCAGCCAAG GTGACGGCCG GCCAGCTCTG CGAGCTGTGC CACCGCGCA 240
 AGGCGCTGGT AAAGCGCCCC AAGAACTTGC AGAAAGTCTG TAAACTGTGC TTCTTCCATG 300
 TATTGAAAC CGAAATCCAC AATAACATTA TGGAGAACA GCTATTCCAG CCGGGGAGC 360
 50 GGGTGGCAGT TGGCGGTCC GGTGGGAAAG ACTCCAGGT GCTTGGCTAC ATATTGAAGC 420
 TGCTCAACGA AAGACACGAC TATGGTCTCG AGATTGTGCT TCTTGAGCAT CGACGAAGGG 480
 55 CATTGTGGCT ACCGAGACGA TTCCGCTAGC TACTGTGAAG CGCAACCCAG AGCAATACGG 540

TTTGCCCCCTG AGATTGTGTT CCTACAGGAC CTCTACGAAC TGGACGAATG ACGAATAGTG 600
 CCTGGGCCCN GGAATGONCA ACACTGONCC TTACTGCGGG TTTTITOGAC CCAGCGCCTG 660
 5 ATTCGGGGGG GGNAAATGCTT GAATCCACCN NTTTGITAAN GGCCATACCC GAAAAAATGC 720
 CNAAAGNGCC CANAAATCCT GCGCGGGAAA TTTGGCNAAT CNAAATAACN CTTTTCOCCA 780
 AANAGGTCCC GNTAANNIT 799

(2) INFORMATION FOR SEQ ID NO:425:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 819 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1313UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:425:

GATCAAAAAA GATACGGATG TTATGCTTGT TAAATATTA TATGCTATAG TACAACGTAT 60
 CGCGTCAAAC ATAACGCATG AGGACTATAT TTTTAATTCA CTAACCTGG CGAAGCATCT 120
 CCGGAAGAAA TAGCCTCTCTG TATGGGGCTA AGTCATAGG CGTCGGTTGG GCTCATCTCT 180
 30 GGAGACTTTA AAGAATTAAG TCCGAAGGCT AGGCTCCCAT ACCCAAAGG CGAGTGGGCA 240
 CTTTGTTCGA GAGATCCTTC TGACATAGCC TTCTTTAGTG ACAGTGGGCG AACATGGGCG 300
 CCGGAAGGAA TACTTTGTCC GTGCAATGAA CCTCGGATA AAGGCTACT TAGCCCGTTT 360
 35 TTGAAAAATG TGACAGTCTT GTTCTTGATA TCTAGCTTGT ACCTCGTTGG AGTGGGTTC 420
 TTTGCAAGAC CAGTGGGTTT TTGGGAAAAG CTTGGCGTCT TCCCGAATG AATTCTGAGT 480
 CCTGGTAGGG AACATCGAG ACTTCCCAA AACNNTTCT CNVTCATTT TCAAAAAAT 540
 40 GGAAATCNC CCGGCCATTA TNGATCTCTT CCAAATTAC NNCNCCNCC TCACTTTGNG 600
 ACTTGGGNAT ANAGANCCCC NTCNNACCC TCCAAANAAA AAAAATTCTC NINGIGCCCC 660
 NINATCCCC CCGGGGCCN NNTTTAATT CNGGGGAAT AAATTTTGTA TCCNNGCNG 720
 45 TNGAAGCANG TTATNGCCCC CCTTGACCC ATNITTINACT TNTEAATTTT TCCCNNNCG 780
 GNTGGAAACT TTGCCNAAAG GCANGCTTTT TGAACCACT 819

(2) INFORMATION FOR SEQ ID NO:426:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1314RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:426:

GATCCATAAA CTATCTTCTC ACTCGCCCGA TCCAAAGTAT CAAGGAATAG GCGACAATCG 60
 10 GTAATGATTG GCTGAGGTC ACGCAGATAT TGGCGCACTT CTGATATCCG TGGGTGTGTC 120
 GATGCATGAT GCACATGAAT AAAAGGAAGA AGCTTCGAAA GAGGTACACG GCGCGGTAG 180
 CGTGTGATGA GAGCTGTTAG TTGGGCTTCA ACATCAGCAA GTTCTCTAT AGGGGAGGCA 240
 15 GGGTCGTCAA CATCATTTAT TAGACACTCC AGCAGTTTGT CTGAAAAAA GGTGTGCATG 300
 GACAAGTGCA CCTCATCTT TGAGATGCG CGATAACGT CCTCAGCGA CGCCAGTCTC 360
 ATCGTGCAAC TCGTCAGAA AACTCTTGAT TGATAAGTA ATGCAGTCAG AAGAAGTCGT 420
 20 TAAAAGCACT TTGATGCCC CAGTGAAACC TAATCTCGT CCGATATAAA ATCGAACGTG 480
 TTAGCAACAA TCTTCCATAT CCGGAAAGTG TTTTACAAGC TTCTTACGAT TTCCACTCC 540
 TCGATTGAAT ACTCCGGCCN AATCTTTTA CCATATACAC CCNNINCGG GCTTTTGCAC 600
 25 GAATNTTA TTTGTTGAAG AACTGGACAC TTTGAACTT TGCACATTGC NGANTCCGAA 660
 ACNCTTTTCN CNGCGACTA ATNINAACC CAATCTGAC CCAATACACT CCCCCCAA 720
 CATGACCCCG CACANGATTN TTTTTCOCN AGAATTMTT NAACINITTG CCCCCNANA 780
 30 CATNTAAAT C 791

(2) INFORMATION FOR SEQ ID NO:427:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1314UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:427:

45 GATCTTGCTG CAGACAGATG CCGCGGAGCT ACCCTTTGGA ATCTTTATAT AAACCTTTT 60
 CCAGCTGTAC CGCAGTAAAC TCCCTTGCT TCAGGAGCTC CAGGCTGCA CGCACACTCG 120
 AGGCTACAC GGTGACTGC ATTGGCTTCT GTGGGCACAC GGAAGTCTTA AACGAACTC 180
 50 AATCCATCC AACCAGTTCT GCTAAGTAG CTACTTCTGG CCAATGCTC AGCCCATAC 240
 CGTGAGGCA ATCTTTCCAA GCCACATAAA CGAAACCTAC ACAGTTACTG CGCAAGGCA 300
 GTCCAAAAG ACCACAGGTT CCGCAGTACC AGACCAAAA GCTTACCTGT CAACACTTCG 360
 55 AACATTGCG TGGCTTAAC CATATGCCAC ATGAAGCAAT AGACCCCTAA AATAGAAAGC 420

GATTGGCCCG GAACAGACAT TCCTGGTGTG GTACTTGGAA CTCACATAGG GGCTGCACAC 480
 TGCTTAAGT CCTCGCTTGC AGCTGAGGCC ATGTGCCCCCT CATTAGTGAC CCACGTTGAT 540
 5 CTGAGGCCCG CAAATGATCG TCAGCGTGCA TCCGACTTGG CATTGCAAGG GATGTTGATC 600
 CCCTGANGGG AGGCTTGCAA CAGCGCCNCC CTTGTTTNC ATCCATAGGC TGTCGAGGCC 660
 GGAATGATCC NCTCTCCAGG GGAACNCCCT CCCCAACGCC CCATAGGGCC CNCCCTGGGN 720
 10 TTTGCCCCGG AACTCCCAA MONGGTTTA AANNTTTTTT TTAAANGNCC CAGTGGTNTC 780
 AAGGCCCCCN NGCCTTTTTT CANCCGCCAN TTGCTNAATT TTGNCNGCG GNA 833

(2) INFORMATION FOR SEQ ID NO:428:

(1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 839 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1315RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:428:

GCGGCGGCTC MNCCAACTAG TGGATCTTCA TTTGTGGCCC GGCCGACAGG TTACCACCGC 60
 TTTTCTCTCC CGTCAGCATC TCAACTAGCT GCTGTAGCTG GTACTCCCTG TCGCCCGCGA 120
 30 ACACGTTGCA CTGTCTATT GCTGTGATG AAAGATCGTG CAGCTGAAT ACATTACCGT 180
 AAGTGATCAG CCCAACAAGC GCGTTGGGGG GCAGCAACGA CAGAGAGGTG ATGATCGAAT 240
 CCTTCAGCGC CTGGAGGTTT TCCTCTCTCG CGGTTACGTC CAGGACGTAG AAGAAGATCG 300
 35 GCGCCACCTG CACCGGCCGA TTTGTGATGT ACTCAACCGT CGTGGAGTTC AGTTCCGCGG 360
 GCATCGCCTC CTGAGACATG TTCGCATAGT GCTGCGGAAG ATGGTTCCGC GTCCCCGCAC 420
 AGAGGGCAGG CCCACACGTT CGACCGCAGG TCGATCTCGC AGTACGGGTT CAGCACCCGC 480
 40 CTTACAGTGT TGGCCCCACC CACACACCAC CCGGTTTGTG ACGAAAACCA CCGCCAGCT 540
 CCCTCCATC TCCTTCCACC GCGTTGTTAC AGCATCCCN CCGGCNCCAC GTTCTTTGTT 600
 45 CCGGTTCCCG TCCGGGAAGC CCGGGAAGAC ATTCCACGA MAACCGCAOC CCGTTAGTT 660
 CTTCTTCTTCT TTTTGAAGC CACCTTGAA CGGAGNCCA CTTTANNC CTTTACCCC 720
 CTTTGATCCC CCGGAAACC CCAAAATGA ACCAANNAGC CCGTAACNBN TCGHAAAACC 780
 50 GANTTGGCCN TTTCAGGTC CCATCTTTG CCCCCGNGA ANAAAANTNC NCGGCCCA 839

(2) INFORMATION FOR SEQ ID NO:429:

(1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 818 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1315UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:429:

GATCTTGGGG AATATCGGCT CCAATTCGGT ACCCATCCAC TTGACACTA CCGACTGCAC	60
CGCCAGCGTG TTCATCGGCA CAAGCTGCTC TCCTAGGCTC AGCACCAGCG GCACCACAAA	120
GTAGAACCGC CGGTTGGTCT CCAGCTGCTC CCGCTGGTTG CGGAACGACA CGTAGTAGCA	180
ATACGAGCCC GGTACGTACA CATCCACATC CAGCAGCTG TCCTCCAAGA AACCTGGGCT	240
CAGCAGATGC TTGTAAAACT TGTTCCGCTG GAACTTCGTA TTCTTTTCGG GGGGGCAGTT	300
GGTCCACACT AGCCCGTCCC GTGTACAGG CGATCCGGCG GCTACCACCA ACCGCACCCG	360
CAGCCCGCTG TCCTCCCCAG CGTCTCGGCC AACAGGTAAA CATGGCAACG TGAGCACACC	420
CTTCCAACC TCCTCTCTCA CCGGCTCCCC GTGTGGTCTT AATCTCAACA GCACGGTTTT	480
CATGGCTGTT TGGGCCCTTT GCTGGATCTT AAAGGAAGCT TGGCTTGTC TGCAGCTGCT	540
AGCCTTGGGA ACTGCCATAG TCCTTTGACC TTGACCGCGT GTTAAATAGT GCATTTTCAGT	600
ATACACAATT TGACTTAAGN NCTCCNCNG TGCTAACTGA GGGANATTAC CCNAAACCCG	660
GANGGGANNA TAACNGNTNA NAATTNNCCC GGTNGCACNC NTGCCNTATG NTTCNTTTTT	720
TGGAAANAAA CCTTNGGGNN GGTNGGTTGN NAAAAATTGA AAACCCNGGN TNAATACTNC	780
NTTACNTTN TCGGAAAACA AAANINCGGC CCCCCCGN	818

(2) INFORMATION FOR SEQ ID NO:430:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 798 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1316RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:430:

GATCAATAT ATCGATGGT CTGAAGGGTT GTCCAGTGA GTAGCTTAGC GAATACTTTG	60
CCAAGGCGTC TCGACATCA AGAAGAGTCT CAAGATAATA ATAGTCTTTT TTGGGCAGTA	120
AGCGAAGATT GTTCTCGCC TTGTTCATTT CTGGCCGGTC CCTGGACCCA TTGGTGCGC	180
TGTTGAAAAA GCGCCAAAAG TACTTCAAAA TGACCGATTT TTGACCTGG AAACCTGGCT	240

GGAGAGAGAA GTCTGTCAGC AACGTAAATT CACTGAGAGA CAGCAGTGTT TCGATAATTG 300
 CAGATTCTTG ATTCTCTTC GTTAATTTTG GGTACAATTT AGATGAGCTT AATAAAAATT 360
 5 GTAGTGTCTG GACAGATGGC GATTGAGCCA ATAAATAATG GCTGATGGAT TAAATGATGC 420
 CAGCTGGGCC AACTCATCTG CATTCGCTAA GGAACGCATT GATTTGAGAC TATAGTTATT 480
 GGCAGCATCC ATGTACTTTG TTGTACTCGA TCAGGTCTTT CACTGAGACA CCGTCAGAAA 540
 10 GCGTCACCGT CTCGTCAATG AGTTAGAGCC ATCCATAGAT TTCCCCGAGG CAGTTCCCGC 600
 CATGAATTTT CACCCACTTC CCCCCCGTC CATACCGCAA TTTGAACATT CCGGTCAAT 660
 ACCTTCTTCC TCCCCCGGNT NITCCNCAAN AGGGAAGTTA NATTCCTGNC CTTTTTTTIN 720
 15 AAAACCCAAT TONCACCTTT TONGGAANT TTTCCGGGTT GAGNAAAANT CCNACNCCCG 780
 GINGCCGGTT TAATTNCC 798

(2) INFORMATION FOR SEQ ID NO:431:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 820 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1316UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:431:

GATCAACACT CGTACAAACG AATATAGTCA CATGACCAGA TAATCGTGTG GACTGGCACC 60
 35 CATACATGGG CACCCATGCA OCCACATGAT GGTTTTCTTG GGGGGTGGGC CGTCTGGGC 120
 GGGCTCCCCG GTCTACCTG GGGGTGTAG GGGGCGGCT GGGGGGOCAG GGGAGCAAT 180
 GGGGGGAGGA ACAGCGAGCG CGCCAGCAGC GGTGGGCAGC TGGAGGTTC GGCATGTGTG 240
 40 GAAAAATTGT AGAATATAGC ACTGTTATAC TGAACAGTAT ATAGAAAGAG CACTTCTGT 300
 AGGTTTGAAC ATACTATACA AGCTCCCAAT CATCGACGAT GGCTGTTGGT AAGAACAAGA 360
 GATTGTCAAA GGGCAAGAAG GGTTTGAAGA AGAAGGTGTG TGACCCATTC ACCAGAAAGG 420
 45 AATGGTACGA CATTAAGGCC CATCCACCTT CGAGAACAGA AACGTGGTGA AGACCTTGT 480
 AACAGTCCAC CGTTTGAAGA ACGCAGCTNA CTCTTTGGAA GGGCNNTTTC TTCAAGGINT 540
 NGCNVTGGCC AACCANCNGG TTONTAGGAT TTNVNCITOC NAAAGGTICA ATTANAAATT 600
 50 TACAGGTCC NGGGCAAAAC CCTTTGACA CCTTCCCCG TTITGGATT CCCCCCNA 660
 CATTTTAATT CAAAGNCCA AAATTTGGCN ACCTTAATTA NGGNATNCC TMTNAAACC 720
 NGNAAAAANN TMTNAAATT TTNVNCCTTG CNVNCCTTCC AAAATTNCC CATTTNAAA 780
 55 ACNTTTTNNC CNVNCCTTCC TTNVNCCTT NAAGGTTTIN 820

(2) INFORMATION FOR SEQ ID NO:432:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 807 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1317RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:432:

GATCTTTATC TTTCGATGAT ATCTTTCTCTG AAGAATCGAC AAACACCTGG TCCAGCAAAT 60
 TGAAGCTAA GTCTCTCCAA TCGGATGCAA AATAGTTGAC ATACCGCGCA TTAACTTCA 120
 CTAACCGGGC GGCACCAATA TCCTCCAGAA CTGTATTAT TTGCTAAGC TGAACGATT 180
 GTTCAATCAG CGTAATATTC GTCAATACAA AGAACCCAAT TCTCTGCATC TGAGGTATCC 240
 TTTTATGTGG AGCTCGACT TCGGGCTCTA AGTTTGGATT TAGAATCTTT TGGGCTTGC 300
 GCTCTAGAGA TATGGTTAAG TAATCTATAG CATCGCTGAA GAAGCAAGAG AGCAATTGCT 360
 GTGCATTCTT CCGTGTCTATA GATATCGTCC AAACATTTT TTGATTCATTG GGCAGCCATG 420
 ATTCGCGAGT CATCGATTGT ATAGTAGCAA GGCAACCAGA CTTGTATTCA CTAAACTTGC 480
 GTAGTCTGGA CATAACATCA ACTGTGGCCT CCAGTTACAC CATTATCAGT GGTAACGTAG 540
 CCCAGAGAAG CGGTTTTTGA CCGATGTACT TGTCNCTATC TTTTGAACA NGGACNCGGA 600
 AATTTCAATT CANGTCNGGC TNCNCTCC CAAAACNGTT CCNIGGTTCT NGTAAAGGTT 660
 TNNCCCTAAA AATNGGGNTT CCCNNGTINAG NITCCCCCCC AATTCNAACN NAANACCCNA 720
 TTTTNTAAT TCCCCNCCA AAATTCAAAT ATACCCCCCN TTTTNGGTAT TTTAAATTIN 780
 GGGGNCNEN NITCCAAAAA GGNCGN 807

(2) INFORMATION FOR SEQ ID NO:433:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 835 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1317UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:433:

GATCGTTCCT ATATTTGTGA AAGAAGATT TTCTCAAGC ACTTTGAGCT GAATAATCTT 60
 GTCAAACATA TTGTCAGGTC TCCGCTGGTC GTTAACCGCG CGAAACCTCT TGAGGAACCC 120

ATCTAAGATC ATAATTGCOCT TTCTGGCTC CGATAAAGCT TTAATAGATT GATGGTTGTC 180
 5 GCTCTTTTCT GCAACGGGG ATTTAGTTAT TTCTCTAAG GATTCCACAT CCTTGTAACT 240
 CAAAAATGAT AAACACACGA CTTTGACTGC ACTGTTGTAC GGAATATAAT TCTCCTTCAT 300
 CTTTTCACAC CATTGAAAA GTTGTTCCTG CTGGAACGGC ATATGATGTG TTCTGTCCAC 360
 10 AATTACAGCT CTGGAAGTAT CCTTTTGTAG AAACCTTAGC GGTTCACGCA TCAATTTGCT 420
 CTTATCCTTA GTAACAATAT TATCATTTCTG TATGTGCCCC CAGGACTCTC CAAAAATATT 480
 CTTCAATGCC AGCGCGACTG TGTCTTTCC ACAACCAACC GTGGCCACAG GGAATGAAAA 540
 15 TGAACCTGGT ATCTCGTCT ACCTTATOGA GCTCCAGATG CATACTGGTC CCCCCTAGCT 600
 CCTTCTATATC CTOGAAATTT CCATAATATC CAATCCCAA ATCCCCAAAT CNITCCTAGG 660
 AANATTTTCC NNACTINGAA ATCCCCCTAC CTGTGINTATA CCCCCTGNAA ATTTNGGATN 720
 20 TTGATTCNG CCAGGGANTA CNATTCCNA TTTTINTTTG TGANNAACAA NGCTTTTGAA 780
 TTTTGTGCC CNCCNCTGT GNANTACCN CCTCCTCCC CCCCINTTIN TTACN 835

(2) INFORMATION FOR SEQ ID NO:434:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1318RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:434:

GATGCGCTCG TCGTTGCCCC GGCTGTGAG GCTCTGCGCA AGGAAGTGGC CGAACCGACC 60
 AACCAAATCT GGCATGTCTT TCGGTAGAT GAAACCTGC TCCTTGCTGT CCACCGCATC 120
 40 CCACAGTTG TTCAGAATAC CCTCTGCTC CGTCATGACT CCTGAGCGGT GAGTGCAGTT 180
 CCCAAGGCTT TTGTTGTGCT TGGCAGTTGA AACGAGCTC GCAGCGGCAA AACAAACCG 240
 GCCCCGCGC AATTGCTCAC GTGCTCTC GCGCCACATA AGCAGGCACA CCTGACCGC 300
 45 ACACGCACCC TGCAAAGTAG GTCATCACCA AAGGGGCACC CCGCTGACC GTTGCTGCG 360
 TCGAGCAGCC GCGCGCCAG CGCCAACGC CACGAGCATG CCGTTCTCC GTAGCCGCG 420
 GCGCGTTGG CCATGCGCA AAATACTTG GTTTGGCCA CTGATGCGT CTGCGTCCG 480
 50 CCGCGCGCG CCGCGCGCA GGCACCGTG CTTGGTCAG GCGCGCGCG GCGCGCGGTC 540
 GGTCACGTGT GCGTTACCC GGGCGTCGT TAGATCGAAG GTTCTAGGTC TGTGCGTGC 600
 TGCCCCTTGT TGTGCTACG CCAACAGTG GCGCGCGTA CCGGCAGGC ACCAGTGGC 660
 55 AGTGGCTATC ACGTGAAAAG AGGCGGGTA ACGGTGGTC GCGCTGAGA CACATCGCAA 720

CTATTTACAG GGCACCTTAGG NGTTGACC

748

(2) INFORMATION FOR SEQ ID NO:435:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 758 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1318UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:435:

GCAAAAAATG AGGTCCGCCA TCGCGGCGG CTGCGGCGG TCGCGACCA AGCTCCGCG 60
 CCGTCCGCG CCCCACAGG ACCAGCTGC GCTGCGGG TAGCTCGGC CCATCGGCA 120
 GTGCGCACC GCGCCCGCG GCGCAACGT CCACATGTG CGCACCACT TCTGTGAG 180
 CACACGCCC CCGCAGTGG CCGGCGTGG CGCGCGCGG GGCACCTGG GCTGTGCGC 240
 AGCCAACTG CTTGTATGA ACAACGCTGT AGGAATGCC ATCTTTGCC TTTCGCTG 300
 CTGCGCTGT GTGTGTGCTA TACGCTGCCT TATATACCTG CCAGGAGAAA TGTCTGCTAC 360
 TATCCCCCG AAAATATCCA TCGATGCGA ACGCGGAAC TCGCGGAAA CTTGAGGCC 420
 CGCTCTGTC GATGCTATG AGAACAGCT AAAATCGCTC AGCTACTCAT CTCTGGGCT 480
 GTGGTTCAG GTGCGCGCA TCGGCGCAT GCCAAGTCC GTTTTTCCTC TGTGGCGGG 540
 CCAGGGAGAG CCGGCGCAG ACGCCAGAT TTTGTGACG GCAGACCGG TTGGCTGTG 600
 TAACGGTAT GAAATACGG GAAGCGGGA TTACAGTGG GTTTCGCTGT CAGGGGTGCC 660
 TGGGCGCGG GAACGGGTT ATGGTCTATA TTACAGAATG TGTACAAAGG AGTCACGTG 720
 GGGGGTGGC GGGCGGACA GCTGCTCTG TTCTTCC 758

(2) INFORMATION FOR SEQ ID NO:436:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 801 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1319RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:436:

GATCTTCCTG CCTTTGACC TCTTCATTAA TCTTCTCCTT TAACTTCTTT TCGTGTCAA 60

	GAATGTCGT TAGCAGTTC	TCTTCTGT	TGGTTTCTT	CCTGTTCTC	CTGCCAAGAT	120
	GCAGCATCGA GTTTTGCTGG	ATGGGCAAGA	AATTAGAATT	GATATGCCCG	ATCCTACGA	180
5	AGAAATCGTA CGGCACAACC	TTAATGAGAT	TCTGCCACCA	GTTCAGACA	TCACCTCTAT	240
	CGTCAATGAC TAGCACCATC	GACTGGTCCA	TGGGGAACAG	ACGCTGAGT	GATTTTTCGG	300
	TCAGCGAACC GTTTTTCATCG	CGTGACAAA	TCTATGCC	AAAGAGCTTC	CCATCGGGT	360
10	CAATTATCTT GGCAATCTCT	AGCGCATAGG	CTCGAGTAGC	CATGGTGTAT	ATATGCAGCT	420
	CGAAATGCGG CGGATCTTC	GCAAAGAATT	CCTTCAGGCC	TGGCCGTAAT	TTACGTTAG	480
	TACCAACACT TGGCCCGTTG	GTGGCTTTT	GGCCCCATA	TAGAACGGG	GCAGCACAGC	540
15	TCTCCATCC GANAGANAAA	AACTGNCAT	CCTTAGCGCC	CGTATTGGG	GTTTGTTTG	600
	GTTCCCTTTG ACCACTCCCC	CATGGTGGGT	TCACACCGC	NATNGATTN	CCGTCGTGTT	660
	CAATTTTACC CCCAGCATNG	CTGCGCNCN	TCNNNCAAC	TTTGACTGCN	CCNCTGACCA	720
20	AAATCCAAC TGCNITGGAC	CGATTGTGT	TTTNTTTTG	AAACGNANT	TCCTNGTNCN	780
	CTTGGGNCOC	CNCTTCCCN	A			800

(2) INFORMATION FOR SEQ ID NO:437:

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 834 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1319UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:437:

	GATCATGGGC	ATGCTGGAGA	ACCCAAATTTT	CCAGTCTCAG	ATGAACGAAA	TGCTCAACAA	60
40	CCCGCAGATG	ATCGACTTCT	TGATACAGCA	GCACCCGCAC	CTGCAGGCZA	TGGGCCCGGC	120
	GGGGGGGAA	ATGCTCCAGA	GCCCCCTTTT	CCGCCAGATG	CTCACCAACC	CCGACATCAT	180
	TGGCCAGATG	TCTGGCTGC	AGATGGGCAT	GGGGGTGG	GGGGCCGAGC	AGGGCACCGA	240
45	CTTTCCAGCC	CCGGGCTCG	CCGCCACACC	CGAGCCGCC	GCCCCGCGC	CGAACCCGTT	300
	GGCTGCCATC	CTAGGCTTGC	AGCCCGGGC	TGCTAACCCG	CTGGGCGCTG	CCCCCGCAGA	360
	CCGGGGCTTT	GCAATGCCCC	CTCTAGACCC	GGCTATGCTC	TCTTCCCTCT	TGGGCGCTGG	420
50	GCGCTGCCAG	CCCTGGGCC	GCGAATAAC	AGGGCTNCCC	AAGNANGN	TANCAACAA	480
	ANATTGGCCC	ANGCTNAATN	AATNGGGCN	TCTCCAACCT	GAANAAANAT	TTCCGGGCTT	540
	NAAGCGCNOG	AAGATGTTCT	NTCNNGGGCG	CCCTTNTATT	CTTNTNTAAA	GGNAAANTTN	600
55	TAGGTGNGA	NTTNTCTGCT	NCNNGGGCG	NGTGGCGCT	TTTNTTTTAT	TCCCTNTNT	660

TTGINTTCTC CINTCTGNTT TGCNACCCCA CNCAATTTT TTINGGTGGG GGCTNCCNTN 720
 TTTTCATNNN TTNCNANNAC GNCGNFAATT ATANTTGINT ATCAGTCCT NTTINTTTTT 780
 5 NNCCNACNGN TTGGGTGCC CCTTINANNT GAGGNTGGTG TAGGGAAAGA AAAT 834

(2) INFORMATION FOR SEQ ID NO:438:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1320RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:438:

GATCTTTTCA AGAAGTTTAA CAATGACTTT AAAGCTAGCA TTGATAAAGT ACTCAAGAAA 60
 CCTAACAGAG CGGAGATGTA TGATGCTCTT TTGICAAITA ACGTCCATTC TAACAATATC 120
 25 ACCTCGGGAT TGAATAGAGC TATCTCCACT GGTAAATGGT CGTTAAAGAG ATTTAAGATG
 GAACGTGCTG GTGTTACCCA TGTCCTGAGT AGGCTTTCTT ATATTTCTGC TCTGGGTATG 240
 ATGACAAGAA TTTCTTGGCA GTTCGAAAAA TCTAGAAAGG TTTCTGGTCC TAGAGCTTTG 300
 30 CAACCTCGC AGTTGGTAT GTGTGTACA TCCGATACG CGGAAGGTGA GGCCTGTGGT
 TGGTTAAGAA CTTAGCATTG ATGACACATA TTACCAAGGA TGATGAAGAG GAGCCCAATA 420
 AGAATCTTTG CTACTTACTG GCGTTGGAG AACATTACAT TGGCTAAANA ANGGCNCCT 480
 35 TCCTTTTAAA TNNNGGGGT TTTATTTGGA AAGGGTACTA CCCCCGGTNC ACAAATCCC
 CCCCNGTTF TTGTTCCCC TTTTAAACTN TANAAAAAC GNGTAAATTT CCNNATTTCT 600
 TTTCCNNIN TOCCAANNIC CTCAAACTT NTCTTTTGC AAGGAGGGGG GAAATTININ 660
 40 ACCCTTTINT TTININGGAA GAGAATTTT GTCCCGNGG CCCCCAAAAA TTTTAAAGG
 GAANTCNITA NATTCOCNAN NGGGNINNT AATTTTGGN TTTTANAAAA AAANCCCCC 780
 CCNCCGNAA A 791

(2) INFORMATION FOR SEQ ID NO:439:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 844 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1320UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:439:

	GATCATGAGG GAATCCTTGG AAGAGGATGA CAAGAAGTCC GACGATGAAG GTGACCTGTC	60
5	TATTCCAGAT GCGCCTTCCT CTGAGGAGGA TTAGGCATAT AATGGGTCTT TTATATGTAC	120
	ATTAATTAAC ATTCCGCTTT AGCTTTTTTA CTCTTATCCT TACGGTAGCT CACCCATATC	180
	TGTAGCCCTG CTCAGTTATC ACTAAAACGA GTGCCAGGCC CTAGTACTAT ATAATCCCGA	240
10	GTTCGAGCTG AGAAACAATG TCTGATTCCG CTGGTTTGCA TGGGAGTACC GCGATGCAAG	300
	ATCCAGATAG CACTTTTAGTC GAGGAAAGGT TGGCGGCTAC GCCAAAAGTT ATCAACAAGG	360
	TCAGCAAGAA AGGTTCAAGC CCGCTTTCAG TGTTTAAGTT TAAAGAGGGG AGCCTATCCT	420
15	GCCNAAANTG CGCCAGGGTN CNTGAATTIN GGAGAAAAAA NTGGTMTTIT TCCGGAAAAG	480
	CGCCCNCTGA NNCCAAAATT TATTNGGGAC CCNCNACACC NCGAGAAATT TNNTTNAAGN	540
	GCGCCCTTTA AAATNCCCAA TNCCTTCNAA ANNATTTGAG GNGGAAAGAC ANITTTNTTIN	600
20	AATINCGCGG GGGGINTTTT TTGCCGCCCC GNGNNTCNC CCNCTCCAC NANITTTNAAA	660
	NATAGGAGGA ANGGNGGNG GCCANATTTC CACCTTTCNN AGTINGANNG CCNGNAAANA	720
	GNNTGAGTGN CCACCAATNC GGGTGNNGA AAANANINC NACTGCTTGT ACACAAATTT	780
25	TTTTGTGCCG CNGGTGACAG AAAAAAGAN GGATTTTTTN ACAACCNNA AAANAAAAAA	840
	AAAA	844

(2) INFORMATION FOR SEQ ID NO:440:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 788 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1321RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:440:

	GATCAGCTCG TTCTTGACT TTCTATGTC GACGGTGCTG TTCTTCAGCC GGGAGGOGAT	60
45	ACGGCTGGCG ACGCTGCCA TCAAGACGGG CGGGACGGC GGGCGCGCG GCGAGATGTC	120
	TGCGGAGCTG CAGACGGCG TGAATTTTGC AAACATACCG ATGTGCATCG GGGCGCGCT	180
	GGCGGTGGTG CTGGCGGTGT GGCAGTACTC GAACCTCAAC AGCTACTTCA CGCAGCTGCC	240
50	GTTCTTCTCG TGGTGATCT ACCTTGTGCT GCTGTGATC CTGGCGGAGC TCGGAGOGA	300
	GCCGCTGTAC GTGGTGAAC AGTTCATGCT GAACTACGC AAGCGGTGCG AGTTGAGGG	360
	TGCGCGGTA GCAGGTCTCT GCTGGTGAA CTTGCGGTG ATCTACTGGT ACCGAACTG	420
55	GTTGAATGGG CGCGGCAGAC GTGCAGACA GCTACAGCCA GGAGGCATCG CGGTGCTTGC	480

TTTTNNCCCCG GGGAAAGGTTG CCCCCNCCAA AACTTTNCTT GGGCCGNTCT ACTTGAANAA 540
 CTTCGCGNCTC TGGGCCCCCA AAAACTTTT TCCCTTTNTT TNACAAGTTC CTTTTCCGNN 600
 NATTTTTTAC GGGNTTNTTC CCCCCNAAT TTTTGGCCCC TTCCNAAGGT TTTTTCOCCC 660
 TTTTNTTTTA NCCNCTTIN NCAAGGGGA AANNTTTTIN CTTCOCCNC CCCCAGAGAA 720
 ANGGGGANT TTCTTTTTT TTAAAANGN NCCCCCGN ANGNNTTIN CCCCCNAGAA 780
 NATTTTTT 788

(2) INFORMATION FOR SEQ ID NO:441:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 815 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1321UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:441:

GATCGAATTC GATTTCCTTT CGTGCAAGG AAACAGAGCC TTGTTAAAG TGGGATACGA 60
 AGACCGTGCC CAATTTTCGT CGCCCTTTC TACATACATC TCAAGGAGG AACTTATCGG 120
 CGTGCCATTA GTGGTCATA TATTGCAAGA ATGTACAAAG TTAGAGAGGA TGAAGGTTGG 180
 GGAGGACGAT GAGCTATGCT TCAAAAGGAG TTGGAGGAA NAAGTANOGG ATTCCAGTTG 240
 TAATTAGCTA CAAAAGCGGA ACGGGTCACA CTAAAATTC ATGCGCTAAC TTTTCCACTG 300
 AAAGAAGCCA CATGAAGCTT TTATATCTTC TGGGGCTCCT CTGGGACGCT TACAGTCCA 360
 GAACGTGTTT CAAAATTC TCGACGTTT CGAGGTTTA AGAACGATC GGTCTCGGTG 420
 CTTCAGAGA GGTGCATTG ATGGGGCGAA AAATGGTTT TCAACCGCG AGGGTGGTTG 480
 TTCAGGAGCT TTGTTAGTTC GAAGTTGAG CGCATTCCA TTGATTGCC CTTCCTCTTC 540
 CTCCTNGCA CTGCGCTT GCTGCTATGT TTACTTACTA NAAGCACCGA NCCACTTA 600
 TCTGGTTTTT TTTTCTATC CTGANACTCC CTGAATTAT TGCTCTTT TGACTTTCCC 660
 CCTGTCCAC GTTNGTTACA CNTTGCTTT GAATATCTT CCTTTCCGAA GCACCATNT 720
 TTATAATTAG TCCTATTGAC CCCCCCACC TGGTTTTGT TTTCTTCCA ACANGTTCTC 780
 TTCTCCACTN AGNTTTGTAT ACNGAATGTC NACCC 815

(2) INFORMATION FOR SEQ ID NO:442:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 773 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1322RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:442:

```

10  GATCCAGGAA ATAGTACAAC GCCCTTGGAT AATGCCAGGG ATTCTGACT CCTAACGAAA      60
    AGCCTCTCCT CTCTAATTT CTTATTAAAG TAGTTAGCTG CAAACTGTAA CAAATCCCCC      120
    GCGCGTCTTT GCTCCACTTC TTCTGGAAT GGTCCAGTA GGTCAAGGTG TTCTGTGAT      180
15  AAAACCATCG AGTAGTTTGT TGTGTGATGC AGAAACCTG CCTATAGCGG AACCAAAATG      240
    CTCTAGTAGT GTGACGGCAC GGTTTTATCC AGTTTGCTAA GCAGCTGCC TAGGTTAGGG      300
    AGAGTAGAAA GTGTCAATTG ACCCGAATTT CCTTCTGGC GCGGCGAAG ACGTTAAATG      360
20  TGATTCACGT GATCAGGCTA CTGGGGCTAA CTACCAATTG AGACAGGCTA GTTGTGGAAG      420
    CCTGAGGAGG TCTCCGAAA GCTTGATGTG AGGATACTCG TGTTCACTTA TCTTGTATGC      480
    CTGTATTGAT CTGTCCGTGA GACCTCGAGC TCTTCTCCG TCAATGCCCC GCGCCTAGAG      540
25  AGCTAGGTTG ACTCCGAGTT CTACAAAATT TCNAAACNCC TTGAAAATTC NCAACATTGT      600
    TNTGGACCAT CNANTTCCCC NCCTTGGAA NNAAGCCCTC CACCTTTTT TNACGTTGCT      660
    NACTTNCCN CTGAAAAAAC GTTCNATTTA CCTTNTNTA CNGGCAGGA AACCCCCCAN      720
30  TTCTTTTCC ATNAACGGT ANCTNAAAGA ATTTTCNNGC CATNGGTTT ANG      773

```

(2) INFORMATION FOR SEQ ID NO:443:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 817 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1322UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:443:

```

45  GATCTTCACA ATGACGCCA CGTCCATCGC GATGTTCCGC CGCACTGCCG TCACTGTGAG      60
    ATATTGCTAC GGAGAGAGCC GGTACGTGTT GATCATGAAG TTGCGCATAT CCTTGTACGC      120
    TTTGGCCGTC TTGAACGCCA CCGAGTGTTT GAAAAAGTCG GGCAACGGGC GACGCTCCAG      180
50  CTCATGGATC TCGTTGAAC TGAACCAAGA GCAAAACGAC GGCAAGATCA CCGGGTGCGC      240
    CTGCTTGGCT AAGAAGCGCG CGCCTTGTG CTCCAATTTT TGCGCTCCT GCTGTAAATC      300
55  GATCTTGGGT TGTTCCTGCT GCTGCTGCTG CTGTTGCAGA TGTGGCAGCA CAGGTACAGA      360

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TGGATTCAAG CTGCCCCGTGT TGCCCCGACGA AAGCGTTCCA TCGCCAGCGT TGTCAATATT 420
 GCCATCCTGG ACATCCATTG GCTCGCTCAT CGTTATAAAG AGTATGCCAC GCTACTTTTC 480
 5 CCGTTTAATA GCTTTCAAAC GCGTCTTGGC TCTGCTACCC CGCTTAANTC CACACTGGTT 540
 TMTGTTTTC NCCATACCCA AANTTTTAAA ACCCATTTTT CCACATCAGC CCCATATCCT 600
 CCGTTTGGTN GNGGAAATTT GAAACCCANC CCTCGCCTGG CGGAAAANNC TNC TTATGGA 660
 10 CCCCCCTCCC NCTTTTCAAT CGGTCCCTT NACCAAGNNT TTAGCCCCC GGNANANGAC 720
 CAATTNGGTC CTTCGTCNC TTTCCTTNT TAAATTGAAA AAGGTINCCC TTTGAAAATT 780
 AACCCNGCCC NCTCCCCC GANAAATGGT TTTTGT 817

(2) INFORMATION FOR SEQ ID NO:444:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 759 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1323RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:444:

30 GATCAGTTTG CAGGACCAT GAGCAGGGCG GCGACGAAA GCAGCTCTCC TTGTACACC 60
 TCGTGACAG GGTCAACAC GGCCTGCAG GCGACGACG ACGAGGAAGA GGAAGATGCG 120
 GCACCGTTTT ACATCCATCC AGATTTGAGG ACATCAGC TCTACTTTGA GAAGATGATC 180
 35 GATGAAGAGC CCTCCCGGC GCTGTTAAG CCGGTGTCT ACAITTAATCC GTATGGACAG 240
 GAAATTTTCC CTGTGGGAA CTCTGGTCT ATCCACCAGC TGAAGCGATG CGATATGCTT 300
 GTGTATTCCA TCGGTCTT AATTACCACC TATGCCATG GTGATCTCC GGTACTTGGC 360
 40 AGGTGGTCGT CCAAGGGAAG ATGAAAAAAT GCTACTGGTC NCCCAATCA ATNCCNAACC 420
 TCCGATTAGG GGGGGGGNT TTTTTTTTA ATTTTAACC CCTTTGGG TGACCCGNC 480
 NAAAAAAG GGGCTTTGN NNTTTTTTT TNGNCCCGC CNOCTNPTCG GNAGNPTTT 540
 45 TTTCTGGNG GGGGGGCCC CANNCGGAA AATNTTINC AAAAGGAAGN ATTINCCCN 600
 NANGGGGANT TTTTTNTA NNAATINAA AAAAAATIN TTCCATCCC NNAATINNN 660
 NTTTTNNNN CTNTNCGN TTGNAANT NACCCCCNC NANAATIN NTTTTTCCC 720
 50 CCCCCCCCC CCGGNNNN TNCMTTTT TINNGATN 759

(2) INFORMATION FOR SEQ ID NO:445:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 834 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1323UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:445:

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10  GATCCGTTTTC TCCAATATTT CACCGTCTG TAAATCAACA GTTGAAAAAC AATGGCGTGC      60
    TTAATCGACG AACCGAGCAC AACCAGCAAT AGGCTTOGAA GCGTTTCAG AGGTGATATC      120
    GCAAAGTTGC TCGAGCACTA GAACGACTG GGTCAATTATA TAGGTGGTAG TAAGAAGTGG      180
15  GTAGAAGGAA GGGGACTATG GTACAGCGCG GGGTGGAGG CAGGGACGCC GCAGTGGGTG      240
    CCGCTCATGG GCATGGGCAT ATCGCGCAGT TGTACGAGTT GGTTTACAAC CGGGGGCGCG      300
    TGGGACGTA GACGTTTACT GCGGACCTG CCGCGCAAG GGAAGCTTGA CCGAGCAAT      360
20  GTTGIGTGCA CGCTAGTGA GCTGTACCAC TCGATTCCGG GCGACATCCC GCTGATTAAG      420
    ACGCATTCNA TCGCCGGTGG GTGTNCTGA NCAAGTTGG ACCCGGAAC CTGATTGTTT      480
    TGTGGCNAGA ACACATNCCC TTGTGTGGT ACCCACCGA NAATTAAACC GCGCCNCCAA      540
25  GACNAGCCGC CCTCCCCCN GNGCGTTGG GTTNNGCCA TNGTCCGGA CNTCCAAGAA      600
    NTTTTACTNG ACCGCGGNG GCACGCGN CGGGGCACTT NITTCAACNC CNTTCCCCC      660
    CNTGGGGGGG NCCCCCCTT TGAAAAANG TGGGGGGGAC CGTTCCGGT CCNITCCCC      720
30  CCATTCNATT TTNTPTANA NANNACCAAC CCGCTCCCT TNNCCCCACN CAAANNNGT      780
    TNGTAACT NCCCNITAT TCNCCCCC CGNCCNTAT TCNACCGN CNGT      834

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(2) INFORMATION FOR SEQ ID NO:446:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 785 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1324RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:446:

```

50  GATCCTACCG GGATGCAAGA CCGATACAAG TATATCAGG ACCTTGCCGA GGAAATGGGA      60
    CATAAAATTG AAGGACCAGA TCACAATTG TCGTCTCTTA TCATAGCCAA GATATATATA      120
    TATATCTGGG ATAATTACAG CGCTTGGTAT GTATACCTCC TACATACAAA TACTTACATA      180
    CACATAAATA TAATACAGCT ACTTGTAAGG CGAGAAAGGT TACTTCTGGA GAGCCATTAG      240
55  AGACGCAACG AATGTCAAAA TCAACCTCG GCGACTTCA TTGATATCTT CAGGAACCAA      300

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CCAGATTAAA GCACCAAGTT TTCTGGGAT AGAAATTGCC AATTTAGCGT TTGCATACTT 360
 CTCTTCTCT GTTACGGCCG GGAGTAACCA AGTCATAATC CACATATCTT GGAGCTAATC 420
 5 CGTTCAATAC ATCCAATAGG AAATGGGCAT TGCTCAACGA AGCATCCCTG GAAAGACATA 480
 TCCTGCTCGA TTTCGCCACC TTGGCACTTG CCTTGGGCC ACTTTAGATC TGACATCTGA 540
 ATNCTCTACC AAACAAACTN TGAGGANATN TGTTTGACAA GTTTTCTGCN CCTCACTGCC 600
 10 AACTAAACT AAGGTCACAC CTNTTTGCTT CCCCAATTGG AACCCCTTNN GCCCCCCAA 660
 AAAAACTTNA ATTCCCAAAT TCANNCCCTN TTTGGTTTCC CCCCCAATNA NCTNNAATTT 720
 CNCCCCNTNN CTGNCCTCG NNGAAACCCN TGAATAACC CCCCGAATAC CTNCTTTGCC 780
 15 CGAAC 785

(2) INFORMATION FOR SEQ ID NO:447:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 866 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1324UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:447:

GATCTTAAAG AGGCTCAGTA TGCAGAGGCA GTTTCAGAA GAAGACAGGC TGGGCTTGA 60
 AATCCCTCAG CTCGCCCGT GGAAGAGTCC GCAGATGAAG CAACACACAC AACAGGGCCA 120
 35 GCAAACGGCG CTGGGGGGGC CGCGCTGCAT CCTGGGTGCC CCTTATGAAC CGAGCAGGCG 180
 GTGTCTCACT GGTGCAGGC AAAAGGGGGA CTACGACTAC TCCGTGTCA ATGAGAGCAG 240
 GCTCTCACT GAGAGCAAGA TAGACAGTA CTTGAAGAGC GAGGCCGCA CACACAAAG 300
 40 CGTATTCAC CGGACCGTC CCCACGAGA CAGCTACCG CCGACTTGC AGCCGCTCTG 360
 CTGGACAGC TCGACGAAG GAAGGGAGAG CCCCAGGCG CGCAGAGCG GCGTTGAGA 420
 ACGCCCCGT TGGTGGGTN AGCATCCCC GGANATNCT CCCAGAAAA ANINTTTGA 480
 45 ACACGCGGCC CGCCGCCCC CCNCAGAAC TCCNTTAC GAACNTTNA AGAAGAATNT 540
 TNCANTTTG CGNCCCTNCT TGGANAATG TGGCCNGCT TNACNAAAG CTAGGTTGNC 600
 GCGCGAAAA NCACTTTGCT TNACCGCATN CTCCCGGAA AGANAGANAG NTCCCNAC 660
 50 TTTTNGCAA TTTTNTCCC CGCGANAAAG GTTCCCGTIN ANCGANGG NGCGCANNA 720
 ANAAACCTAC NCANTTTNAA CATTCCCCC CNPTTTTTC AAAAAAGANA ATGNTTTT 780
 CACNTGACA ANTGATNCT TTTNTGAAG GNGGAGTAC CCCCCTTG CTNTCTCTC 840
 55 CCTAGANCT NCNATTTTGT TTTNT 866

(2) INFORMATION FOR SEQ ID NO:448:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1325RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:448:

```

GATCAATGCG GGAGTGGCAA AAAGCGACTC AAGGTGAACG TGTTTCAGCA CTGTTTCATGA      60
TGGGGGGTGG TCATTTTGCC GCAGCCATCG TATCTCACCA ACGCATAGAT ATCAGTGGCA      120
ATGCCAAGAG GCATGGAGAA TCGTTACAGG AACAGGCCGT GCACTTTCTT GAGCACAAAA      180
CGTTTCACAG ATACACCACG AGGCGGAAAC AAGGAGGTTT ACAATCGGTT ATGGATAACG      240
CCAAGGGGAA AGCAAATTCC GCAGGCTCTA CGCTACGTAG ATACAATGAG GCGGCATTAC      300
GGAATGACGT TCAGGACCTG TTAAAGAAAT GGAGGCCATA CTTGGAACGC TGCGAACACA      360
TATTTATTAG GGCCAAAAAT GTTGGGACA GGAGCGTATT CTTTACGGAA AATACCCCAT      420
TGACCAAGGT TAGACCCGAG GATTGGACA TTCCCATTC AACCCTAG ACCTACCACA      480
AATGAGCTAA GGCGAGCATG GTGGAGATA ACATACTGA AGAAGACATT GAAGCCGAGC      540
CATCACATCG GAGCGGCATA CTCTAAAGC GACAATGATC CACTGCCAAT AAGCGACGTT      600
GTACGCAACT TAACCCCGNG GNAAACCTTA NCAGGAACGG CTCTTTCTT TGGATTCTAG      660
GCCCCNNNTT ATTCCTTNTT CNAAAANNTT NPTTCCCCAA CCTCTTTTTA AACCCCCGGA      720
AAAANNTTIN AAACCCNCTC CCCCCCCA      749

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(2) INFORMATION FOR SEQ ID NO:449:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 801 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1325UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:449:

```

GATGTGCGCA TGCTGTATGT GGTATTTGCA TGCGGGGCGG GGTGGGAGTG CCAGCTGGAC      60
TACGAAATCA AGGACGAACG TGAATTTTCA GCGGCCCTAG ATACTGTCAA GGTGCGCTA      120

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5
 10
 15
 20

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GCCCCGAAA AGAAGTCGCC CTGCCGCACG ACCGTGCAGC CTGGGCTGG AGCAGGCGGG 180
AACAAACAGC CGACACGGGT ACCCTCTGTCC AAGCTCTTTG TAGGTGCGAA AAACACCAAG 240
TTCAAGCCAG TGATGCGCTC TGGGATGCC GCTATCGGG CAGGCAGTGC CGCTTGGGGC 300
CGCCACTGTG CGCTATTGGA TAAGACACAG ATAGATGACC CACTGGTCAT GAACAAAGCC 360
GGTGAAGCAG AAGTCGAAGT TGTAGTCGAT CCTATTTTGT CAAAAAGCT ACGCCAGCAT 420
CAGAGAACAG GTGTGAATT CATGTATGAC TGGTCCGGG GGCTCGCAAG GTCCGAGAAG 480
GACGATGATA GAACAGTGAT GATCTTGAA TATGATAGTG ATGTCAAGGG TTGTCTGTTG 540
GCGGACGAGA TGGGATTAGG GAAAACATGC ATGACGATTG CTCTGATCTG GACGCTACTG 600
AAGCAGCATC CCCAGGCCAT CGTCTGTTC DATGCTCCGC AATTGGGGGG TTGTGTTTGC 660
AGGGTTTTTT GCCANAAATT CTCNIGGTAT GCGCGGTGA CTCTGATTGG CGACTGGGAA 720
AANGATTTCN CCNATNGGNN GCGGANGAAT AAATTGGANC CTNGAANCCN ATTGCNAANT 780
ACCCCCCAA ANAAAAATG N 801
  
```

(2) INFORMATION FOR SEQ ID NO:450:

25

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(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 774 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear
  
```

(ii) MOLECULE TYPE: DNA (genomic)

30

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(vi) ORIGINAL SOURCE:
    (A) ORGANISM: PAG1326RP
  
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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:450:

35
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 45
 50
 55

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GATCGAATTA AGTCAGATTT GATTCCGATG GCTACTAAG AACGTGCATT GTCAGACGGA 60
CCGAATCAGG TACACATTGA AACTCGTGAG TGGCTAGTGC AGACAATCAT AAATGAAAGT 120
TGTGGCTGGA GCAAGGGAAC TGGGATGCC TAACTTTCTC AAAAACTCA TGGGTGGTCA 180
AAAATCAATC TATTCAATAT ATAGTATATC AAAACATTAA ACCAACTAG GCGCCAGAA 240
TATTGCCAAA ACATTGCACT GGAGTATTAG TATGCAGAGA AGTAGCAATG GCGGCTAGC 300
TGGTTACGTG GCATTCAAGG ATGACTTATA GAAGCCATT AATCATCTTT TAGTGACAGT 360
AAGATCAGAC ATTAAATAAC GTATCGAATT TTAGGGGAGA AGTCATCACA CTTCGATTAG 420
TATACCGCAA TAATTCGGG ACCACATCAG TTAATACTGG GCATGGTTTC TAAAAAGGA 480
AACTGGGTTC ACATTCAAGT GTTTTTCGAA CATAGATGTC TCTCTCATG CTGCTTCTG 540
GTGAATAAC CATGCTTCAG TAGGCACCGT TCCAGTATT TGTAATTAG TTGCCAGACT 600
CCTTATAAAA GGATGACCCG AATATGANCT TCCATTAACA TTGCCNGGAA AANANATTG 660
GCANCGTAN ATATTTTCTT GCAATTCAN ACGTTCINT GAACCCCTNC TTGGGGNCCN 720
  
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GCTTCCAAA AACGAANTTC CCCGTINGNT NTTTTATAGG TNCNAAGAAA AANA

774

(2) INFORMATION FOR SEQ ID NO:451:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 779 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1326UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:451:

GATCAACAAG CGGTTGGCGC AGCTGCGCGA GAACCTGGCG CTCAACGGGG TGACGCGAG	60
CGGCAAGCCG CGGCTGTTTG TGTGCCACAC GTGCACGCGC GCGTTTGGCG GGCAGGAGCA	120
CCTGATCCGC CACAAGCGGT CGCACACGAA CGAGAAGCCG TATATCTGCG GGATCTGGA	180
CCGGCGGTTT AGCCGGCGGG ACCTGCTGCT GCGGCACGCG CACAAGCTGC ACCGGGGGAG	240
CTGCGGGGAC GCGCTGCTGA AGAAGGGCTC GCGCGCGCGG CAGCGGCTGA GCGGGGCGGT	300
GCGCGGGGCG AAGAGCGCGG AGGGGCTGCG GCGGGCGGGC AAGCCACGGC GCGGGCTGTC	360
GTTCCTGCGC CAGTCCGGGG AGAGCTACGC GTGCGTGGG CCGGCGAGCG CCGGGGGGGG	420
CGAAGAAGGT GCAGTCTCG ACGCCGACG TGCTGCGGT GGAACCTGACG CAGGAGCGGT	480
CGACGTACAC GCGGCTGGAG GCGAACGGTG GTTGCAGGAC GTGAACAGCC TGTCCGCGCT	540
GGACGGAGCG CCGAGGAGGG GAGCTGCAGC CCGCGTGGC GCTGTGTTGG CAGGCCACGC	600
ACACGCGGTC GCTGTTTGCC CACCCCTCCC NGTTGGCGGT CCTTACGGGA ACCTGCTTGN	660
CGCTTTTGCC CCGAATTGCA GGTTCGAAGG GCTTNCCTCG CGNGGGGNCN CCGCCCCCCC	720
CGCATCCCCC CCGGTTNCCC AAAATTTCAA GTTAACCCAA NAACATTCCC TTCTGCGT	779

(2) INFORMATION FOR SEQ ID NO:452:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 763 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1327RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:452:

GATCCAAGCG TCTGGAGTAT GCTAAACGAG CGTCTCATGC CAGGAACAAC GTATTATCTC	60
GTGTAACGCT GTCTCGAGC CTCGAGCCAA ATCTGACCGT TTTTGTGCTA GAGCATACCC	120

5 AAAAAGAAAC ATCTTGATGC GCTAAACAAC ATGACAATGA TTAGCGCGAG GATGCCCTTTC 180
 ATGTTCTTAA TTGATGCCCTC GAGGTCCCGAG TGGTGCGCGC ATGTAGTCCT GCGGCGCGAT 240
 TATATITCGG CGTAGCTGTG GTGAAACATC GCGGCTAATT GACGGATAAG CAGCTGTGTA 300
 CCTTATTTTC ACTATTTCTT TTCACATACC AAGGACTAAG GTTGATTCCA AGAGGTAAGT 360
 10 ACTGACCCAG TGGACAGCGT AGTTATCGGA GTAACTGGGC AATGTCTTAC GGGTTCCTGG 420
 GGAGGGGAGG AATGGGCTGC TCAAGGCGGA CGACGCGCGA GCTGACGAAG GAGCTCAACA 480
 TCCCCAAGGA CGTGGCGAGC GGCATGAGGA AGTCGCTGTC GTACGACTTC CTTAATGTGC 540
 15 CTGGCGGGGA CGAGCAGCGC AGCCCATCGG GACGCGGAG ACAGCGACAG CTGAGGACGG 600
 CCGCGACCGA ACTGGAAGAC CAAACCGCGC AANGGCGCCN AGGGGNGNG ANCAANGNG 660
 GAAAGGGGGA ANTTTTCGGA NTACCTCTGT TGGGCGCCCG CCGGGTTCC GANTTTGGGT 720
 20 TGNCAAAATC CCTCTCTCAC TTNCAAACT NCTGAGTNN AGT 763

(2) INFORMATION FOR SEQ ID NO:453:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 794 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAGL327UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:453:

35 GATCGGAGGC GTGCTGGAG CGTGCTCTTG TTCTGTCTCT GCTTGGCTAC GCGCGACTTG 60
 GCAGCGCGCG CGCTCTGAG CGTCTCATAC TTGCTGCCG CTAAGTCAT GGTTCCTATC 120
 GTCACGGTGC AGCAACTGG ACAACAGCAC CCAGCAACGG TTGCATTTAT ATAGTGCTTA 180
 40 CCTGTACGAT AGGGGACTGA TGGCTCTGCG ATGGGTATCT ATCTCATTC GGAAGGTCTT 240
 CGAAACGAAA AGCGCCAGTC GCTGTGAGC GACAATAGG AACCAATG ACACATAGT 300
 GCGGTTCGGC GACCGGATCC CTGCATGAAG ACCGAATGCT CGAGCAGATT CTGTGCGGG 360
 45 CGTCAGCGGG TAGCGCGGCT CGTGTGTGG CGAGCGCGG ATATGCGATG GCACCGGATG 420
 GCGATGTGCT CGGCGCTGG GATTAACTTA GCTCTTCGGA GATATGCTTC TGTAGGAGGA 480
 AGAGGGCGTA CGGAGAAGG CTGGACGGG GCTTGGGGAG CTCTGCAACG TTGCGGGGGC 540
 50 GTGCGCGCGT AGGCGGGGGC ACACCGGGNA AATNCGNEN GANCCNGTN CCTCCNITC 600
 CNGCCCCCAA ACTTGCGGGC NTNCCCNCC CGAATNCAA GGNNGNCCC NAAATCCTNA 660
 ACCCCCCGNA GGAAAGNITT GGCCTNTTGA NCAAAANACN CGGTTNAAA NTCCCGGGGG 720
 55 TTTGNGGCC CCGAAAANG GATAAACN GGNACNACC TTTTGAAATC GCGTTTONTT 780

TTTCCCCCAN ACNT

794

(2) INFORMATION FOR SEQ ID NO:454:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 757 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1328RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:454:

GATCTCTTCT GCAAGTTTCT TTATCGGAAG CCCAGGCTCT GGATTTCCTT TCTCAACACC 60
 AATGGTATTG TCTTCGATAT CAGAGAAGGA GCGCTTCGAA TTTTGCGCAC CACCATATGG 120
 ACTCTCTTCA TTATTTTGGT TATTTTCTCC ATCATTCTTG CTGCGCAAAG AAGAATCCAT 180
 CGCACCCATT ACATCGAATT CTTCAATTATC AGCTTCTCCA CCGTTGTAG TATTTCTGTC 240
 ACCATTATTA TCCTGTGCT TATTGATTGC ATCAGGCCCC ACACGGCTCA TTTGTATCAT 300
 GCTAGATGTA TATGGGACAT AATCCACCTT TTCCAACAGA GGACCGAATC GCTCAACCAA 360
 GTATTGATTT AAAACCAGGA AGTCTTTGT ACTGACCTCG GCATATTCTT GATCTTGCCC 420
 GAAACGTGCC GAAATTACCT TAAATAAGTC GAGCAAGCAT GAGTTGGCCA TGTATCAAAA 480
 GTAAAGATTT TCTGTAGCA GCTGACAAAT TGGATCAAAA AGATCTTAGA TATGAGATAG 540
 TTGTGATAAA ATTCAATCATT TACAGCCAAG ATACCCCTGA TACCCGAATC GCAGCCAGCC 600
 TTAACGTAT AATATGGATG GTTCCATTAG TTCCAATAG TCAATAGATG CCATTTTCCA 660
 ATATNAACCC CCGTTGACAG CATAATATCA GTTCCTGTT NINATAATCC CCCCATTTTA 720
 CCAAACCGC NCGTTGATT NCCNNCTC CACCCCT 757

(2) INFORMATION FOR SEQ ID NO:455:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 794 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1328UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:455:

GATCGGAGGT ACATAAGTGC TCTACCGACC AACCCCGCTC TCCATGCATC AACCAATGGA 60

GTTGAAACAG TTGACTGGCG AGCAGGCCGC CGCACTAGAT GCGGAACCTCA TGGGCCCAGA 120
 CGTTGGCTAC TGGCTGCATC AATTGATGGA GCTAGCAAGT CTTCGGGTGG CGCAAGTGGT 180
 5 CGTGGCCCAT TGGGGGCCG CACAGGCGAA GAAAAAGGTG CTTGTGCTAT GTGGGCTGG 240
 CAATAACGGC GGGGATGGCT TGGTGTCTGC AGGCACTTG CGGCTCTTGG GCTATGACCC 300
 TGTGGTCTAC TTGCCGGGC TGTCGGCCAA ACAGCCCTTC TACGCACAGC TTGCCAAGCA 360
 10 GCTACACTTC GTGGGTGTCC CAGTGTCTTC CGAGGCGAT GACTGGGTG CGCATCTTGA 420
 GCCAGTGAC AGGCTGTGG TTGTGGATC GCTCTTTGG TTTTCTTTTC GTCCGGCGCT 480
 GCGGAGCCC TTGGCTAGCA TTGTGCAGA GCTCAAACCC CATGAGGATG ACATCCCAAT 540
 15 TGTCGTCTC GACATTCCCA GTGGTTGGGA CGTTTGAGCC AGGAGGCTCA CCGCTTCAGA 600
 CTTATGCACG TGTGTGAIN TCTCTGAAC GCCCCCAA AGCTGCTCC NNCACATTG 660
 AACTGGTTT TTTACNCCC ATTANTTTG GNGNGTTTC ATCCNAANC CCGGCGCGN 720
 20 CCTCCTGTT TTTANTCCT CCGGTATCC TGNCCATC CANANTGGT TTTGANTTG 780
 CCATTGCNIN ATCT 794

(2) INFORMATION FOR SEQ ID NO:456:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 176 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1329RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:456:

GATCCGTAC GGGTGTCTC ACTTGGGTT CTTCGGCTG GGCTTCTGT TGGGTTGGT 60
 GCGGTGTAC GTGCAGTCA AGAAGGCCG CTGTGAGTT AAGTAGAATA TAGTCTAATG 120
 40 CTATGCAGG CCGGGGCCG CCGCGCGGC GCGGGCGG TCACGTGAC CGGATC 176

(2) INFORMATION FOR SEQ ID NO:457:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 176 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1329UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:457:

GATCCCCGTC ACGTGCCCGC GCCGCGCGGC GCGCGCGGC CCGCGGCCCT GCATAGCAIT 60
 5 AGACTATATT CTACTTAACT CACAAGCCGG CCTTCTTGAA CTGCACGTAC ACCGCCACGA 120
 ACCGCCACGA GAAGCCCGAC GCGAAGAACC CGAAGTGCAG CACCGCGTAC GGGATC 176

(2) INFORMATION FOR SEQ ID NO:458:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 767 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1330RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:458:

GATCTTGGAT TTGACATTGT CAATGGTGTC AGAGGACTCG ACCTCAAGCG TAATAGTTTT 60
 25 CCTGTCAAA GTCTTCACAA AAATCTGCAT ACCTCCCTC AAGCGCAACA CCAAGTGCAA 120
 CGTAGACTCC TTCTGGATAT TATAGTGGGA CAACTGCGG CCATCCTCTA GTTGCTTACC 180
 CGCAAAGATC AAGCGCTGCT GGTCTGGGGG AATGCCCTCC TTGTCTGGA TCTTCGATTT 240
 30 GACGTGTGCA ATGGTGTGAG AGGACTCGAC CTCAAGGTGA ATAGTTTTTC CTGTCAAAGT 300
 CTTACAAAA ATCTGCATAC CTCCTCTCAA GCGCAACACC AAGTGCAACG TAGACTCCTT 360
 CTGGATATTA TAGTCCGACA ACGTGCGGC ATCCTCTAGT TGCTTACCTG CAAAAATCAA 420
 35 GCGCTGCTGG TCTGGGGGAA TGCCCTCCTT GTCTTGATC TTGGACTTGA CGTTGTGAT 480
 GGTGTGAGAG GACTCGACTT CGAGTGTGAT TGTCTTTCCC GTCAAGGTCT TGACGAAAT 540
 CTGCATACCA CCTCTCAAAC GCAACACCAA GTGTAAAGTA GACTCCTTCT GGATATTATA 600
 40 GTCGACACG TTGCGGCCAT CCTCNNTTG CTTACCTGC AAAAAACAAA CGCTGCTNGT 660
 CCTGGGGGAA TGCCCTCCTT GTCCCTGATT CTTCNANTTT GACATTGTCT ATGGGTNCCN 720
 AAGANTCCNC TCAATTNTTG ANTTCTTCC CGNCAGGTN TTGAANN 767

(2) INFORMATION FOR SEQ ID NO:459:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 794 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1330UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:459:

5 GATCAGATGT TTGTGCTAG TAGCTCGGA TAGTACTAA ATTACCATAT GCCCATCAGC 60
 ATTATACTAA CTAGTGTGT TTTGCAGTAA GCGGTAAACC ACCCATTAAG CCTGTTGTAT 120
 CACCAGAATC CAAATGCGTT TTTGAAAAGA GGTAAATTGA GCAGTATATC GATGAGCATG 180
 GGGTAGACCC AATCTCCAAG ACAAGCTTGA CTAAGGATGC GCTAATTGTC ATTGCCCAGA 240
 10 CACCCACGA GTACGGGCTC GCAAACGCG TTAAGTGGC TACGCTCAAC GCCAATTACA 300
 GCATCCCCAA CCTTCTGTCA ACACTACAAA ACGAATGGGA TGCCGTGATG CTGGAGACAT 360
 TTGAGCTGCG GAGTCAGCTG GATATGTGCA AAAAGGAGCT ATCGTCAGCG CTGTACAAGT 420
 15 GCGAGCGGCG TATCCGGCTC GCGGCACGCG CGAAACAGGA GAATGATGAA CTCAGACACA 480
 CGTTGACGGA GCGTGAAGGA GGCAGTGGC GGGCAGGCTG CCGATGCCCC GCCCTTCCA 540
 GCGGAATTGA TTACCCCGAT GGCAGAAAG CACAAGAATA TGTGCAGCAA ACGAAAGAAA 600
 20 GAAGGAAATG AAAGCCAGGT AGTGAAGGCA TTGCTCTCTG GAACAGCGCG TCCAAACGGG 660
 NITGGAGGTC AACCGTTTTT TTGGTTACCC GTTINNTTGG TTCCGGAAAA ANAATTANCT 720
 NNCTTTTTAA CCAAAGGCA GGGCCNTNIT GCTGAACAAA AAGGGTTTTT GCTNCTNNAA 780
 25 AATTNGCCNC TNAC 794

(2) INFORMATION FOR SEQ ID NO:460:

- 30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 776 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: DNA (genomic)
 35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1331RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:460:

40 GGATCATTTCT CAGGTATTAG AGATTGCTGA TGGGCACGG CTTTTTCTTC AAGGAATTCG 60
 ATCGGAGGCG CCTCTAGAGT TGAAACGAGT TTATTATACT CAGCCATTGC TACAAGCATA 120
 45 TAATCAATAG CCGCAGCGCA ACTCTGAAGA TGATCTAAAG AAGGAGCATC TGCCTTTCTT 180
 CGTAGAACAT TGAGAGCGGT TGCCCTCTATA ACTTCATGCT TATAAGTGG ACGACTCGAA 240
 ATAACATGTG ATAAAGGTGG AGAGTTGGCC AATGTGTTCA AAGCTTCTAA TTCTGAAACG 300
 50 GAAATTAGTG CATACCCAGC AGCTGCAGCT TTATTCTTCA AATGATCGAG AGAAGGTGAT 360
 TCGGCTACTG TTCTCAAATC CAGAAGAAG TTGGAATCAA GGATTTCCTA GTTCTTTTCA 420
 GATGCAATGT TCTTGAGGAA GCCTTCATCT GGGCTCTCCG TATATCTGCT TCAACTCATC 480
 55 CATAGTAATC AGCAGAAATG ACAATCCATA TATGGTCTTT GCCTTTGGTT TGTAGTTAGT 540

CGATGGCTGG ATTTTCCCAT GGTAGAAAGA AGAATATCGT GCTCTTTCTT TTCAAACAAC 600
 AAATATCATA TGCCCTTGGC TTCTCTCTGC CAAAATTCCA AAATTAGANA TTCTCTATCC 660
 5 CCTTTAATAN TTCCACATGT TCCCAATTCC TCCCATNANA TNACTGTCTA ACTGTTTGTT 720
 GGNACCCAA AAANATTCTT TCTCTTCCCT TTTCGCCANA TGCTCTTTIN CCAGTC 776

(2) INFORMATION FOR SEQ ID NO:461:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 808 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1331UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:461:

GATCGTGGCG CTGCTCCACG AGCGGCTGGC CAAGGCCACG CGCTGGACG TGGCCTGCAT 60
 25 CAAGAGCTAC GTCTACGGCG ACGGCTGGA CGAAACCCCG TGGTGGCGCT CCCATGCACG 120
 CCCCCCGAC TGCCCCGGCG AGTGGCAGGA ACGCCAGGC ACGTGGGGC CGGGCGAAGA 180
 CGAGCTGGCG ATCTTCACGC TCTGGCAGCT GCTGGAGGAC CAGTCCCGGT CCGAAGATGT 240
 30 CATCCCGAT AGCATGGATG CGGGCGACGC GGTACGCTG GGCTCCCCGC AGCCCCAGGC 300
 AGGCTCTCG CAGCACAGCT TCTGCCAGA TTCCAGGCAC GGTGGCCCC TTGGCGCCCC 360
 CCGTTAACC CCTTTGACG CGCGCGCCGC CTCCCCACTC CCGTCCCGG TGTACACCGC 420
 35 GCGCGCTCC CGCTTGACT ACATTCGGA CAGCAAGGA TGAACCCCTA CGTCTCCAG 480
 GCGCCAGCC AGGCGCGCAG CCGCGCTCC CTGNTTGAAG GTTNGAANG CACCCINCCA 540
 AAANTTTAGG GGTNGGCGC CNGGCGCGCT CAACCGNTG GGTCCGNAA AANCCNVTG 600
 40 CGGGTINCC CCNCTTTAA GCGGCGNTG AACNCGCNT NTTTGGGNA GGGTTTCAN 660
 ACNCAACNG TNNNNCCCC CTTTTTTCT TCNAAANAAG GCTTNTTGT GTCNNTCCG 720
 CCGGNGNGN AATTTTNTT TGTGGGGCTG NNCCINAGA AAACNCCNC NCGGNGNNG 780
 45 GGGAAAAAA AANTTTTTTT CCNNGGT 808

(2) INFORMATION FOR SEQ ID NO:462:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 762 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1332RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:462:

5 GATCTTTTAT GTTCCTTTAG AGCAAGGTCA ATTTTCACAC CACTTCTATC ATCTTATATC 60
 CAGAATAATT TGAACAAGAA GGTACOGTCT AGTGAACGAC GTGATTTTCAT GCCGGOGTCC 120
 AAGGTTTCATG AGTCATTACT GAAAATGAAG CAGCACTATA TCGAAAATAG GTTGCTOGAA 180
 10 CTACAAAAAC TTCATCAGTT ATTCTGTAAA GATAACGTGA ATTTTTCCAA AAAAATGATA 240
 AATGTGAAG AAAGAAGAAT CGTAAATCTT CTAAATGACC TAGATGATGA TGCTAACTTT 300
 ACTTTTGAGA CTGTCCATAC TAATTTTGIG AATAATGAAC TATTCATGGA ACTACATGAT 360
 15 CACAAGTCAG TGATATOGCG CGTTTGGACA TTAGATACTG CGGAGGATTG CAATCGCATG 420
 AAGAAAAGT TACGACCATA TACACTCAGC TCCTCGACTA TTTCAGGCTC AAGTTGTCCA 480
 ATATTGATGT AGATCCAACC GCCACTATGA ATTTNAGTTC CGAACTCCN TTGANCAGTG 540
 20 TTACCTCCTT ATTGTGTTTG TTACNCCAAT TGATCCCTCC ANTTTCOGAT TCTGGAAAAT 600
 GGNGGAAAAC CNNOGAAANT GCNGAAAAC CTAAANAAG GAANACCGTT AACNGGGTTN 660
 GGAATGTCTA TTGGGGGGGG GCNNANCIT TTAAAGNNNC TTTCNNGGGG AANANNCCNN 720
 25 NCTCCCNINA AANTTTTTTC CCNNGGNAA AAANTINICT GG 762

(2) INFORMATION FOR SEQ ID NO:463:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 798 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1332UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:463:

40 GATCTTTTTC AGACGCAGTG TACTATOGAT GAAGCATATG ATTATTATAC AAAACTTCTG 60
 TCGATACTA TTGCATTAAA CCGCTTAAT AGAAACGAAT TTTTGGAAAG TTGCGACACA 120
 45 TTAGAGATGT ATGGAGTCG TTCTATTGAA AATGGCAAGC ATGGCAAAAA GCCAAACAA 180
 TTGGTAAAAC TGATCAAGAG TACAGTTGAT GAAAAGGAGT TCCATGATGA AATATGINAG 240
 ATGGACTTC TTAAGAAATT GATAATATAA AAGGCTACGA GCTTCAATAT TATAATACGC 300
 50 ATTGCATAAT TTATTACATT AAATGATAT AGGTATATTT TTCTTGAAG AATTAATICT 360
 AATCATTTCC ATGTGAAGAT ATCGCCCTCT GTGTACCTG CGGATATTTT GACTCTTAGT 420
 ATATCTACAT ATTTTGGCGA GCCATTATTT AACTCGCCA GCTTGACTCT GGACCCAAGA 480
 55 GCGTAATGG CAGCAGCTCT TCCTGAGCGC AATTTCTTCC AGCAATTGAG GCAOCATGTG 540

CCGTCTTTTA ATTCCAGCAC ATATAACAGA CCGTCCCGTC CAATAACCCCT AACACAATTA 600
 TTCCCTTTCT TTCCCATCAT GTTTCOGATA CTGGACATTC CCTGAAATGC AANTTTAACA 660
 5 AGCCTTATAC CAGTGAAATC NTGGGTTTTG AAANATGCN TGCCAATTTT AACCCGTGAG 720
 GTGGTAACC TGAACTTTTT TTGAAATTTT AACCCCCCA ATNANINTTC NTTTTTGNA 780
 10 CCCATGCCT TGTCTNCT 798

(2) INFORMATION FOR SEQ ID NO:464:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 138 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1333RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:464:

25 GATCACCGG TGAATATGCT GCTTGGCATA GTTGATATAC ATTGTGAGAA AGTGCAACGG 60
 AAGGATGTCC GACTCGGACA CATGGGCGGG CTGTCTCTT AGGTAGAGGC TGGTCAGGTG 120
 30 CTGGCTAAT TCTGATC 138

(2) INFORMATION FOR SEQ ID NO:465:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 137 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1333UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:465:

45 GATCGAGAAT AGCCAAGCAC CTGACCAGCC TCTACCTAGA GGACAAGCCC GCCCATGTGT 60
 CCGAGTCGGA CATCTTCCG GTGCACTTTC TCACAATGTA TATCAACTAT GCCAAGCAGC 120
 50 ATATTCAACC GGTGATC 137

(2) INFORMATION FOR SEQ ID NO:466:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 766 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1334RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:466:

10	GATCATAATC CAGTCGCTGT CGAGATACTC GACAGGAATG GAAGTCAGCG ATTTGCTCGA	60
	AGAGCGCGCG AAAACCTTGT CCGTTGGCTC CGCGGTTGCG GTGAGCGTCC CGGCGCGCGT	120
	GCCACCGCTC GACTGCAGCC GCGCAGGCTT CCGCAATTATC TGGTTCATGG AGAATAGCGA	180
15	CGATACTGGA CGCTTCATGA TGCATTTTAA GGCCACAACC TCGGCGGTAT CATGCTGGCC	240
	CCGCGCGCAC CCGGCCAACC GTGGCCCCCG CAGGACAGTC CGAAACGGC CTGCTCTTAA	300
	CCGACCCCTC AGCATATACT GGTTCACCTG CAGCGTTTCC CGGCCCCCTA TCAGCCGTGT	360
20	CGTCTTTTGC AGCAGAAOCA TCTCCACCAG CTTGTTATAC TCTCAAATA ACGCTGGSTA	420
	TGTTACTGCG TCCCCGCGCG AACCGCTCCT CCCCACACC GTGTCCGTCA AACGAGAGCT	480
	GCTACCGCTG GAGATGCTGC GCAGCAAGAG AGAGTGTCTC CCTTCATTGA ATTGCACGAT	540
25	AGTAGGGTAC GAACTCATGC NCCCTATGCC CTACACCATG NANTGGTTT CTATTGTINN	600
	TGCGGCCCCC NATNCTGTT CCAACINTIN TTANCTGGG CACNITTTTT TNIGGTTGCC	660
	CCCGAACCT CCTTCCTTA ACCAATCTG GGCNCCTTC NCAACAGGAA ACCTTINIGAA	720
30	CACTTTCCC NAAANGTNGC GAANAAAAAN TTTTITNAT TNOCT	766

(2) INFORMATION FOR SEQ ID NO:467:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 796 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1334UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:467:

45	GATCCTGGCG GGCTCGGGCG AGCCCGACAG CGCGCGGTG GCCATTCTGG AAAGCGGTC	60
	CGCGCGCGCG CGCGCGGTG GCGGCTAGT CCGGCTGTGA CAAGTCGCC CGAACAAAC	120
	GCTTTTCGAC ATCACTCTCA ACGGCTGCC CGGCGTGGG CAGTACTAG CCTGATCCG	180
50	CGGTCTGGT GATGTGTCC GCGCGCGCG GTCCACCGG CCGCGTGGC ACGTGTGGA	240
	AGAGCGCGTC GGTGGGAGC GCGCCAGCC GCTGGGCGT GACCTCTGG CGGCTCCG	300
	CCTGTCTGTC GCGCGCTCG CCGTCAGGC GCTGATCGC CGCGCTTCC TCGTGGGCG	360
55	CGACCGCGG CAGCGCTCG CCGCGCGCG CGCGTCCG GTGCTGGCG GTAGCGCGG	420

CCGCTGGCAG AACGACAAGG TCGTCTGCGC GTGCTCCGGC GACACGCTGT GGCAGGAGCG 480
 CGGCTCCGGC CGCTCCGCGA ACATCGCATG AACTGTATAC TACATACCTG CTACGTTGTG 540
 CTCGCGCCCC CCGCCAAGCG CTNCTCCAN CCGGGGGGGC CCGCGGGGOC TTCCAACCTCA 600
 CCGCCGGGGG GCGCGGGCTG GCGCGAAAAC CCGCTTCCGC AACGNCCAAN AANNCCANNC 660
 CCNTACNAGN CCCANTTANC CAACACNTTC NTCAACGGGT TNNNGCCCC CCCCCGNENC 720
 TTCTCCGGNG TTTTITTTTTT CCGGANNATT NCTGNITCCN CCGTNTCCCN CCTTATTTTG 780
 NNNGCCCCCC CCCCCC 796

(2) INFORMATION FOR SEQ ID NO:468:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1335RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:468:

GAGGCAACGG AGGTGGCGGT GGTATCAAAG GTCTGGTAGT CGCTATGTCC TTTCCGAGCT 60
 TTTGGGGTTT TGTGTCCTTG CTTTTGTTCG AGCTAAGGT TGGCGGGGC GAAATCACAT 120
 GCAGTGGCGC CGATTCCAGG TCCGCCAAGT TAATGGGANA CACCGGGCGC CTCAGCATAG 180
 TGCTGTGGGT CCTCCTATGT GATTGGGACC CAAACGTATG GTCCGCCCTT GGGTTGTGAT 240
 TTCTGTAGCT TGTATTTCCC TCCGGGCCAC TAAACTGCG OCTACTCTGA TTCTCTGTCA 300
 GTAACGCAGA GTAAGACACA CGCTTGCTTC GTGTGAGCGA TAGTGTGCGA CATAAAITAC 360
 TATGCGGGGA NCCNINCCAA NTTTAACCTN TGNNAANAAA ANACCCAAAC TTTTTCAAAA 420
 CCCAAANTTC NATTTNGGNN NCGAAAAATN CCGNTTGGNN AACCCCCCGT NNNGGGGTTT 480
 AATGGGGTTC TCCAAAAAAA ACCCNCCANT TTTCCCCCCC CCCCCNAAAT TTTTAAAAAN 540
 NCTTTTAAA AANNINNTTT NTGTGGNGNC CCCCCCCCCC CCGNAAAAAA AATCCCCCN 600
 AAAAAANNG GINTTTTCCC CNINGGGGGG AAACCCCCCC NAAAAANNIN ACNINCNANN 660
 NNGGGNCCC CNCCCCCCCN ANCNNTTG TTCCCCCTT TNANAAAANG GNCNCCCAAN 720
 CNTTTTTTIN NNNNNNNNAA AACNCCCTTT TTGNCCCCC CCGCNAAAAA AATTTTNNIN 780
 NNNNTTTIN G 791

(2) INFORMATION FOR SEQ ID NO:469:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 807 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1335UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:469:

GATCAGATAA GAATTGAAGC TCAGCGGCTG ATGAGCGCAC TGCTTCGGAT ACGGTGGTCC	60
TGTACCAGGC TGATAAAATG TGACACTATC ACCATAATGG GGTGTAGCT GGATACGATG	120
TCCGATGCG GATGGACTGT TCTGAACAAG ACGTGCAACG TCGAGGCC ATAGTGGGAA	180
ATCTAATTAA CGTATTTACA TATCAGTGGC GATGTGTCTA GGTGCCGGCC ACCTCGATT	240
CCTGTCACTG GACAGCGCG TCATATAAAC ATTATGTGTT AGGGTTTAAA GTTGCTTTGT	300
GCGGTGGAAA ACAACGTCAC AACTAATAA AATCTAATC GAGCCAGCAA GCAACTATGT	360
TAAATAAGCC GAACAGTTTA CGATTCCAAG GGCACGGTGG AACCCGCCAA GGCCCGCTC	420
CNANTCNITC CCTACAAAA AGGGAGGGGG GCGCTACCAC TACCGAAACC ATACNGGTTN	480
NAAACAACCC NAANCCCGTT TTCCCCCCCC CCAAAATTAA ANANTGGGGG CCCCCTGNNC	540
NCNATTTGTT NNININANGG GGANAGGACC CCCCCCGGG GNNNGNTCC CCCCNTCNA	600
AAACCANNAC CCCCACCCCN ANAAAAANGG GGGGGGGGN GGAACNCCC GATTTCATAA	660
AAATTTAAAA ATTNNINGAA ACGNAAAAC GNGTGNCCN TNCNNING AAAAANGTTT	720
TTGNGNNA CANCCCCAA CNNTNINAG NNNCCGNN CCCCACCN AAAANTTTC	780
TNGNANGGG AACCAATCC CCCCC	807

(2) INFORMATION FOR SEQ ID NO:470:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 782 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1336RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:470:

GATCATGTTT AACCCAGATA CGAAAACGTA GAAGCTAGAG TGGATAGAAA AGCTGCGAAA	60
AGTAATAGAG CTGAACAGGT TTCACCAACC ATGGGTAAA AGTTCTTGA ATAGCAGTGA	120
GAATATCTC TGAAGAAAAG CATGACCACA GGATTACATA GAGTAACTTT TGTGCAAAGT	180
TTATCTGTAT GTACAATTTC ACGTTATAAA TTTTAAAAGT ACTCGGGCAA AATCGGCACT	240

TGGTAGCGAT AACGCACACT CGAGTGAAGT CCATCCAGTA CATAAACATT ATGTCAACTA 300
 CTTACCATTA TTGCCATTGC CAGATGAAGT ACCCATGTTT TGGTGATTGC CTGACCCATT 360
 5 GTTACCACTT GCAGCGCCCA GGTTCGGGG AATCATGCA GGAAGGGAA ACGGCGGAA 420
 ACCCCGAACA TGGGTGGCAT ACCCATGGGA AACGCCAGGC GGCTGCGGCA GAGAACCCTT 480
 GTTTTGTGTC CGCCAAATTG AAGTTCCTTG GTTTCNNNN CCCCCCGCA AAAANCTTAA 540
 10 CCGGTGCCCC CNGCCCCCN TCCCCCAANC TTTCNNNTG NNGTTGGAGC CCCCACCCC 600
 CCCCATTAT TNNCTGGCC GGGGTTCNN CCCCCGGA GACCCCCCCC CCGTTGTGN 660
 NNTTACCCC CACCCNCCC CCCCCCGGA ANCCGNTT AAAAATNCN AANAANNNT 720
 15 GGGCCCCGNG CTCCCCGGG CTCCNTATA CCCCCGNN GTAAAATNC NAAGNGNCC 780
 CN 782

(2) INFORMATION FOR SEQ ID NO:471:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 793 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1336UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:471:

ATGCCATT TAGGATGAT CCGATCACC ACAGCTCGA GGGCTTGTA GAAAGCCAGC 60
 AAGCCCTCC CCGTGTAGAT GTTGGCCCC GTGGCAAAA ACCCAGGGG CTTCGTGCC 120
 35 TCGTTCGCG CCGTGTAGAT CTGCATGCG ACCTTGATG TGTCAATGG GTGGCAGCAG 180
 AGCGCCTCAA ACAGGCCCC GGTCCCGCC GCAACTAGT TCACGGCGG GTTGGTAGAT 240
 40 TTCTTAGAG ACATGTGGT ATCAGGTAT GCTGCTGGC AACTGGGCT GCACGGATCC 300
 GCTACGCTT TCGTTCGCG ACCTATATAT ACAACGGCA CCGACGGCG GCGCCCCCA 360
 CCTGTCTCC GACGCGCGC CAATAGGAGC TCGGCATAC CCGCGGCGA ACGCGGTGAG 420
 45 TCAACCGGC CCGAAGCGG GCGCAATGA ACGTCAGT GAAAGCAA GACTTAAAGT 480
 ACTATGTAG TACACACTA GCGCTGGCC ATCTGGCGA GTCTGGGAT CGTGGAGCG 540
 ACGTGGCGC GCGAGCGTG GAGAGTGT ACCGACCACC GCGCAGTC NTCTTTGCA 600
 50 CNACTTGA NTTCACAAAN NCCGAGAG CCGGCTTCN CCGCTTCTT TCGCGAAAA 660
 AGACATCCT TACCAACTT TTGTGCCCT NCACTTCTT NAACCTGTT CONNACGAA 720
 NAACCTACC CCCCCCTT TNCGNNAA TCNACTIN TNCVNTTT TACCATTTT 780
 55 NTNAAAGGG TGN 793

(2) INFORMATION FOR SEQ ID NO:472:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 767 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1337RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:472:

GATCTTAATT TAAATTTTAA ATTAAGTATT TATAATTTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 ATTTTATTTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAATAGTAA TTTAATTTAA TTTTAAATTT 300
 AAATATACCA TTTTATTTAA TAAATAGATT ATTAAGTTTA TTAATATTTA GTGATATATA 360
 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 TTTTATAATA TTTATTTTTA TTAGTCTAGT AATATTTCTA TTTAATAGTC TCCCTTTAAT 480
 TGGATATTAC TACCTACTAA ATATTTACCT AATAATATAT TATTAAGAAT ACTTAAATCT 540
 AATAATTTAT TATCTAAAGG TATATAAATT AATTAAATCC TTTTATTTTA TTATTTAAAT 600
 TATTATTAAT AGTAAATTAT ATTATTTATT TTATTCACCA TAATTTTITT GATNATAATA 660
 TATCCTTTNN TAAATGGGGA ATTTATNAAT AATTANCTTC NANGAATTTT AATGAANAAC 720
 CCCCNTTANN ATAAAATTAG TTAANNNTGN NCTCAAAAANN CCNATCA 767

(2) INFORMATION FOR SEQ ID NO:473:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 799 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1337UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:473:

GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60
 CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120
 ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAATCAT TTAATACTCC TCTAATTCAA 180

TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAAATTG 240
 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300
 5 ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360
 GGIGTGTAAC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACATAAT AAAAATAATT 420
 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAA TAAATAATAT 480
 10 GTTATATTTA AATAGATCAA AATTTCAACA ATTTCATTT CATTAGTAC TACATCACCA 540
 TGACCAATGT TACATCATTT AGTTTAATAG GGTTTACTAA TAACCTTTAN CCTTTTACCA 600
 AANNANNGGT ANTANINGGA AAAATTATNC CCTTAATAAT AACCTTANATN AANNATINT 660
 15 ATATACCAA ANNTINTGAN ATTTNAAAA ATATNGCCG AANNNCNTA TTTTNGTAN 720
 CCCCCNNTA CNCNGAAAA AANGNTTACC CGGTTCOCCT CNTATNTGN NTNCCCNAAA 780
 ATAAAAAATG NGCCCCAC 799

(2) INFORMATION FOR SEQ ID NO:474:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 771 base pairs
 (B) TYPE: nucleic acid
 25 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1338RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:474:

35 GATCAACCGC AACCGCTCAC TCANGTCAG ACGTTATAG AGACGGTCGT CGATGGCACT 60
 ACAAGGCGCG CAAATGCTTT GCTTATGAAT AGCACGGTTG AGGTGATAAC CGTTAAGGAA 120
 ATAGTGAAGG AGACAGTTTT CGTGACTGAG AAGGTGACTA ACTAACTCCA ATGCAAGCAG 180
 40 AACGCTTTCT GTCTTTTGT CCAAACCTAC CTGAACACCT AAAGTTAGTT ATTACAACAT 240
 GAGTTTATT TACACAGTAG GGTGCCACAG CCACAGGAAA TATCCAAAGA AATTAGCTTT 300
 GCCTTGATAA AAGATATTCA TCCTATTCA GCGACCCCTC TAATAGCAT TCTCTAGAAA 360
 45 GTTCCTGGC TTTCATTTTA AATCCTCGTG CACCTGTCC GTAACAGTGT CTATAGTATC 420
 ATTCCGTATC ATTTCTGAAT GAAGTAGATT CCATATCAAC ACTTGCTTTG GTGGAAAGCT 480
 CATTATTCTG AGCAGTAATG GCTTCACCTC TATCCTGTTT CAACATACTT TTTTATGCTG 540
 50 CCGGATTAA CCTCCCTGAA TTCCCTTAGG ATGCAGTGA GACCATGCC GATTTATCAA 600
 ATTTATCTGT CCTTTAAANA ATTTTAAACC TTTGACNCCC CTATTATTAT TTTTATGCTT 660
 ATCGTAATGC TGCCNGANCC CCNAANGAN ATGGGGTTTT CCNATTTANC CTTTGGTTCC 720
 55 CCAANTTAAA ACCCNCCCCG GNCNCCCCC CCCCCACCN GGTGGGANA T 771

(2) INFORMATION FOR SEQ ID NO:475:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 796 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1338UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:475:

GATCAGGTTT TCCGTAAGT GAGAACGTAT CTAAGGCACA AAGGGCTTTG GCGACTGTG 60
 CGGACGCTTG AGTTGCNAGA TACAGGACAA AGCTGTTACG GCGCAACTG GTGCANCAAG 120
 AGCAGCCGAG GAGCGATTCT GCGCGAAGG ACGGTGAATT CGAGCCAGCT GGTAGCAGGA 180
 GTGCCGGATC GTCTATTTAG TTGCGACGGG CGTCGGAACA GGATGCACT AAACGTTGCG 240
 GTAACACGGG ACGCTGAAGC GACGGCTGCT ACGCGATAG CACGGGAGG CAAACGACGG 300
 CAGCCGCTGT CGCCAGAGAT GTCTTCACCA CTGCGCGGTA GCAAGCTGCA GCGGCGGAG 360
 CAGACACTTG AGGCCGGTCC GGGTCGCGCC AGTGGGACAC ACACGGTGGG CGAGCTGGCC 420
 GGCAGCTGG AGCGCGGCTG CGAGCAGGCG TCGGAGCGGA AGCCGCGTA CTCGTATGCG 480
 GTGCTGATCG GCGTTGCGAT CCTACAGTGG CAGGAGGGCA GCTGACGCTG TTCGCNAAAA 540
 TACCGNMGNA TTCCNCCNT CTCGCCCTAN TAACCGGTGT TTTTAACCCG GGGTTGGAAA 600
 ANANCTTCG GACNACNINT TNCITAAACA ANGGINTTGT TTTAAGGGG GNNNCCCC 660
 TCAAAGGANG GGCTTTTGG AAAATTAAAG GGGCCTTNA NGGGGCGCTC NCTTNNCAA 720
 AAAGGGGGAA TNATTTTNG GGCCANATT TNNCAAAAT TNINCANTAG GGGNCTNG 780
 NNAANTTINT TNCCTT 796

(2) INFORMATION FOR SEQ ID NO:476:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 764 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1339RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:476:

GATCATCGCC TTTAGGCCCA TGTCAACCTT GCGCGACCG ATCAACTCG TCAGTCGGA 60

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CCGGTTCGTG GCGTCGAGCA GCGCAATGTC CACACCCCTOC TGCTGAAAGT AGCCCTTGGA 120
 CTGGGCTAGA AAAATCGCAA TGTGSTATGG CGCAGGCTGC CAATTCAATA GGAATGAAAC 180
 TTTGCTAGAC ATCTTGGTG CAGTCTCCGC AGCTACACC CATTCATOC AGGCTCATCA 240
 GCGCTTTAT ATACCGCTGG GCCAAAGATG ATTGAATACG GTTCGCAGAC GGCTACTGGA 300
 ATACCCGTGG CGCCACAAGC CGCCCACTGG ATGCCATGG CCAATGCCGA AGCCTCCTAT 360
 GTGACATGTA CTAACAGAGC AGCTTCTTTA TGCCTTATC GAGCCAAAAC CAACATCTGC 420
 GGAATCAGAC TTGACGGAAT CGGCCCCAT GCGCAGCTGC TGGAAACACA AATCCAGCAA 480
 CTAATAGGGC TCAGTGGTAT AACGGCCCAT CGCTCTCTCA ACGCCAAGTC CCTCTCTGGG 540
 GAAAACATGT GATCAAGTGC TACATATTCA ACCCCCGTCT TACCTCATAG CTGGCATGT 600
 CCAGCCCTGA ACTGTTCCGA CCTTCGGTCT TCNGAAANC CTGATTGCGT TGCTTTAATT 660
 CCCCCCTOC NCCAACCATG TNCGCCCAT TTACTTCGGT TGCTTTTTTA TTTCGTGCAT 720
 TGTTTTTTNA AAAGNCCCTG TTAANTAAAT NCCNCCATN TGGA 764

(2) INFORMATION FOR SEQ ID NO:477:

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(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 778 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1339UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:477:

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GATCAGGCCA TTTGTGATA GTGGCTTTGA TTGAAAAAT CGATCATTA CCATGCTGAC 60
 TATAAGTCTA CTGACCAACG CCTTTGCCAA CAAAGACTGG GCGTTAACC TAATGTGTC 120
 TGGCCCAATG TATAACTCGA TATTTGGGTT GATTGATGCA GACCACCCAA CTTGTCTCC 180
 TAAGCAACAG TCATCACTGG CGTAGCAAT AGCTACCTA ATATACAAC ACTCAGTGT 240
 GGTAGTAAAA GAGAACAACC ATGACATCCT AGCAATTGTT GCAGAGGTT TAAACAACAA 300
 ATACGGCTCC TCTTCTTTA TCTTCGGGAA CGAGGAGGCC GCATACAGAC TCTTTGTTGC 360
 TTACGGAAAC TTAAGTACTG TGGAAGGCAC CTTCGCACAG TTTGCTCCTT CTATCTCATG 420
 GATAAGGAAG CTGAAGAGCC AGTATGCCA CATATCGAAA TTCCAGGATA TTTTAAATGA 480
 TATTTAAAGA AAGGTGTACG TATATATCCT ATTCTTTGA TCGCTGTCC GAGGCTTCC 540
 CGGAAAAATG GTGAAACTT CGCTCTTTGA CACACAGCT TTGCCCTTCA ACAGGATAGT 600
 TTGAAGGGAC ATGTTCTGTT GACAANNCTT GAACCAAGGT ACTGGTGNAA AATTINAANA 660
 TCTTTTCTCC NCCGAAANCN ANTTCTNCGG AANTTAACGG GAAAAAANC CCCCTNNNC 720

CTTTNITTAN TAACCCCCC CAGGNTINIG ACCTTGATTT TTACAAAACC TTTTNTT

778

(2) INFORMATION FOR SEQ ID NO:478:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 766 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1340RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:478:

GATOGCCTGA TATGACAGG CACTTTTGTA TATTAGCAGT ATTCTTGACG AGATAATGCA	60
GTCAACTCCT ATATAGAAAC CGGATACAGT GGTAAAAACG CAAATGTAGG CAATTATATA	120
TTACTCTTCT CGACACCACT AACTTCTCGA TAGGGGATA TCTGTAAAT TTGCATACAC	180
CTTTTCCCAA CTTTCAGTGG TCTGTTGGC GTACTTTACA TGCACTTTGG CCATTCCTG	240
GAAGACATGT GTGATACAA ATTGAGTCTC CTGAAAATT ACAAAATCCT CTAAAATGCA	300
CTTTCTAATT AGCCAGGACC TGTTTAGTTG CTCAGCAATT GTCCGTTTGT CCGTTTGAAT	360
TGTCGTCTG AGTTTATCAT ATTCTGCACC TTTAACGTCC GGATTACTCT CCATAGATTG	420
AAGTTTGTC ATATTATATT CCACCTCCT CTGCAAAATG GCTATGTTAT TCCCCGCCAT	480
AATTTTATAC CTATCAAAGA CCCCTTCAGT GCTATAATAA TATCTATGAA GGTCTTAAAC	540
TTACCCGATA GGTGTTCTC CACTTCTGA CGCTCCTTC TTAGAGGTAT CGGCCACGCT	600
ATTGAGATGT TTTTGATATN NUGGAAATAT GANATTYAA TATCNIGAA ATGCGCTCTT	660
CCTATTGGGT ANAANTGTIN CNGAATTATC AANCAATTCC TCCATCACNC NGCCAAGCAC	720
CCNCGTCTT TCNAANACCT GNCNNGCC CCGTNGGTT NNNNNA	766

(2) INFORMATION FOR SEQ ID NO:479:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 790 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1340UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:479:

GATCTGCTGT ACCTGAATGG ACTTTGCTC CTGAAGTAGA AATGTAATGG CCCCTTGGG	60
AATACATAAC AACATAGCG GAGACAAAA CAAAAGGTT ATACAGCAT CTGCCGTTAC	120

ATCACCGTCA GCTCCTTGCA GACCAATAAG CCTTCAAGTT AAATATAGGC TAGCTATAAC 180
 ATATTATGTC GCTAAGAAGG GCCAAATCGT TGCCATCGCT TAAGAATATC GCTGAGGTGG 240
 5 CCAAGCCCAT CACCAAGGCC CCCCCTCTCC CCTTCTTTCG GTTTGAGGGC OCTGGGCTGT 300
 CCACATGTGC CTGTATCCC ACCACGTGC GCACAGTGCA CAATACCCCC AGTAAGGGC 360
 AGACGACGCT GCTCTGACA GCGAAGAAGG AGAGTGGTT TTCCGCAATG AACCTGAAGG 420
 10 CCTTCCGAA CGAGTCCCGC TCCCAGGCT CAGGGTCTCC GGGCGAAGT CGGATTGTAT 480
 CGAGCGATT GTGACTTCG AGCTGAAGG ACCGCTGGC AGGCGGGGA CACGGCGGC 540
 GTTCACAGC CCGGCACGA GCAGGCGAG CGTATGCGC CCGTGACAA GGTCACCATG 600
 15 CCGACATCG CGCTTGACAG AACGAACCC GTGCCACACC CTGAGAAAA CTACATACTC 660
 CGGANTCCNT CNITGTNCCN CCAAGGGGT TTCCCTCCC GTTACCNATT CCNAAAAGAT 720
 TTTTGCCNCG GAACCCANGA AGAAACCACC CGAAGTCCA GAAGGGGNT TTNNNANCG 780
 20 AACCGAANT 790

(2) INFORMATION FOR SEQ ID NO:480:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 765 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1341RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:480:

GATCACATCC GATGCGAAAC TGTATATTG TTTTCCCACA ATGATGAAGG TGAGTGTGGG 60
 GCAGCAATTG TCCGGTTGAC GACTCTATA GGCCCGGCA TGCCACGTG ACCAGAAATT 120
 40 TGCAATGTGA TTATGATGC AAATGGAAAC CCCATCCAAG TTTCACAGTC GCAAAAGAAC 180
 AGTTGGATCC TGACAAGGT CTCTGTAG GCAGCTCTAT AGACACTCG GTTCTGTG 240
 CTGCGGATGC AACGAAAGTG TCCGCCATG CTTACTCCA GGCCCTTTT AACTCTAAG 300
 45 AAAGTGAAGT AACTCCTGA TGTATTACT TTACGCAAGT CAGAAACCTG ACCAGGTTG 360
 ACTAGTTTT TATTGAAGTC CGTCTGTCT CAGTATTGA AGCAGTTAGT CCCACGAATG 420
 AGAAACTTAA AGAATAATAG AATGGGAAG ACTCAAAAT TACGGCTACC ATAAGACTCA 480
 50 CAGACTTACT CGACTCGAAC GTTTCGTCC GCCTTTGTC CTGCGAGTCA TATACAGAGC 540
 OCTGTATGC GTAAACACC GGATGCGCTA CAGCAAGGTA CTGCGCTACA AGACAACACC 600
 CTAGTACGC CGTTTCACAG TATGCAATA ATNGAAGCA TTCTCTCNG ACTTTTTAGC 660
 55 NAAAGNITT ATNGAAGT ANCCCTGTG ATACTTTATT CCCCNNAC CNGTTTTCA 720

AAAANCAGNG AACCATACNA TGGGTTTAAT AATGAACNNT CACNT

765

(2) INFORMATION FOR SEQ ID NO:481:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 810 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1341UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:481:

GATCAGAGTA GATTTAGTAA AGAGGTAAACC ACCACTGTTT CAAGAAGTCC AGGGGCTTGG	60
CTTGACCAGC ATTGGTAAGT GCTGTGGCTG GAAATTTGCA CTAAACGGT CTGAGCTCAT	120
CTGGTGGCC AAAGACCTAT GAAGTTTCAA AACACCAACT TTGCTGCCA TTCTATATTG	180
AAATGTATGA CAGATGGCAG GTGCCTTACC GTACACTGTT TTATTGGTAA CTGGGTCTAC	240
ACCTTTCACG TTCACCTTTG CCACATGGAT CAACATAGAA ATTAAAGAG AGCCAACTT	300
AGCCTTGATA TTGTGGGCC AAAGAACTTT AGACTCTCA ATTTGIGTAT TTCTAAAGT	360
GGTTTTTGGC CTTTGGACCA GCTTCTTGAA TTGGTTACTA TTGGCCCTAA CTTCCCTTAA	420
AATCGATTTT TCACTCTTCA ATAGTGCTTC CGATCTGTAT TCCATCTCGA CAGCCTTACC	480
TATAGCCAGA ACGGCTCTG GTTGTTCTCA TACCTTCACT GACGCTCCA GTTAGAATTC	540
CAAGCCTTTA CCNATTCCTT AAATGTTTGA TGAANACACA TTTCTCTCTG ANINACCCCA	600
AATTGAAATT ANGGGGNCTT TTCCANNCCN TGAAANAAAA TGINGAACGG NGTTTCAGTT	660
AAGCCCATNT ATCACINGGN ANCATTNNNN AAAAANGCTT CCCCCCTCC TTTTAAAC	720
GGGATCTTNC CAAAAACCN CCCCCINAAT GAACCATTTT NCGAAANCCG GAAGCCCNNG	780
CCCTCNCCGN CTANATTCN GCAANNCAIN	810

(2) INFORMATION FOR SEQ ID NO:482:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 759 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1342RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:482:

GATCCTGATT TTGATTTCGC CATTCGCTGAT GTTAATGCAC TCAGTGCTGA TGTCCTATAT 60
 ATCCAGCATG AATTATCCTG GTGGATATGC GCTATCTGCA TTCAACAAAT ATGTGCTGGA 120
 5 CAATAATATC TCGAATGCGA CCGTCCACCT AGATGTCTTC ACTTGTATGA CCGGTGCAAC 180
 GCTGTTTGGG CAGCTGCCGG ACTTCTACGG GATCATATAT GACAAGACTG AAGGTGATGA 240
 ATTATIGGAC GCATGGTCAT CGITCGATTA TGTCATTACA ACTGATCCCA ACAGCTCACT 300
 10 GCTCCTGTTT ACAGGCTACA AATGGGAGGG CATCCAAACT ACTGAGGCGT TTGACCGCTT 360
 CGACCTTAAA ACTATACCGG AAATAATCAA CTCAGAAGTT GCTAAGGGAT TCCCTATCTT 420
 AAAAGATGCA ATACTCTCTG CAGACCTGCA ACCTGTGAAG GCTGCGTTCA CAGATGTGAT 480
 15 CAGGTGCAGG GATTGAGTGT ATACATATAA AAGAGTTGAG AATTAAATAGA ACCAGCGCTC 540
 CGCTTACGGA CAGTTTCCAT ATAAATATTT ATTTATTTAA CTTAAAAGTT CTGCGAGTTG 600
 AGGAGGAATT TGACTGCTGG AGATTCCGAC ATACTGAAAA CATAAAGTGC ACATTTACAG 660
 20 GATTGCGCAG TTAATTGATT CCCCNTCTTN NNCTTTAAAT GCCTGATCNA ACTTNAACA 720
 TCCTATTGAA CCCCCTTTGG TGNITCAANC AAANTNDAA 759

(2) INFORMATION FOR SEQ ID NO:483:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 802 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1342UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:483:

GATCGGGCAG GCGGGGAGC AGCAGTGGG CGCCTTCAAG GAGGCGGCAG ACTTGGGGCC 60
 40 CATCATCCTG ACCAAGATGG ACGGGCAGC CAAGGGGGG GGTGCCATCT CCGCGGTGGC 120
 CGCCACGAAA ACACCGTGA TCTTCATCGG CACAGGAG CACGTACAG ACTTGGAGAA 180
 GTTCTCGCCG AAGTCGTTG TGTCGAAGCT GCTCGGCATC GCGACATCG AGTCGCTGCT 240
 45 GGAGCAGTTC CAGACGTCT CCAACAAGGA GGACACCAAG GCCACCATGG AGAACATCCA 300
 GCAGGGCGGC TTACGCTGC TGGACTTTCA GAAGCAGATG CAGACCATCA TGAAGATGGG 360
 CCGCTGTCC AACCTGCCA GCATGATCCC CGGCATGAGC GGCATGATGA GCGGCATCTC 420
 50 CGAGGACGAG ACCAGCGCA AGATGAAGAA GATGGTCTAC GTGCTGACT CCATGTCCG 480
 CGAGGAGCTC GAGTCGGAG GCGCTCTTCA TCGACGAGCC CGCCCGCATG CTGCGCGTGG 540
 CCGCGCGNC CGGGCACCTT CCGTCTTTCC GAAGTNTGAA AATATCTCC NTGCGCTCAG 600
 55 CCANATGATT GCGCGGNTT GCGCCANGGC GCGNANAACA TTGGCGGCTC CCTGGGNTG 660

CCGGCGNGOC CCGGNAATGT CCGGCGCTCT CNGCTCCAAA NGATMNAACC NGCCCNANON 720
 TGNVITNNCT CAACCCNCCC NIGANNCCCN CATAATGGCT NNCCGNGNGG GGNCCNGGGC 780
 5 CCCCATGCCC CCATTAGGCN AT 802

(2) INFORMATION FOR SEQ ID NO:484:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 844 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1343RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:484:

GATCAACCAA TGTGTTAAGG AAATTTTAA CGTTTCCCG GATTTGGCC ATCTTCCCT 60
 CTAATGGTA GGAAACATAG TCTGTAGCAC CCAATGATTT AGCAAGTTTC CGCCGAGCT 120
 GAAGCAAAC CTAAAGCCTC TTCCTTGTT TTTCCGAACA ACTAAACATT GCGGTCCATA 180
 OCTGCCCTCG AATAGCCTCT GAAGGACAAG CATTCAATAG TGTATACGGA GCATACCCAC 240
 TAGTTGGTAT CTTATAGTTA TTACCCATGG TGTCTTGGT GAGCTGACGA AGAACAAGAT 300
 GGCTAGTGCC ACTCGATTCC AAATCTTTGC ACGGAATCTT TATGTAGCTG GAAGATAATG 360
 ATTCTGTGTT GTTGATGAAG TCTTGCCAA TAATGCTGAT GTTTTGGGAT AACTGTATAA 420
 ACTGCTTTCT GACTTCGGGC GACGCATATG CGCTGCTTT TTCAAAATCC TCTAGCAATA 480
 TATGGCCTAC CGTATCTCC TCGCTGCTCA GTTACTGCT TATATCTCG TCCGATAGCA 540
 CTGTTTTAA TCTTTTGCAA AGCACAACAT CTGTATTCAA GATATCATAA TCTCAAACAT 600
 CTGTTCAATGA CATTCCCTGA GCTGCGGCAA CAAATGTTC ATCCGGATGT TGCAACCCGT 660
 TAAACTCCNC ACAATNCAAT CCCCCGCAT AAAATCTGA TTTGATCTAT CNAATGATNT 720
 40 NNCCCAACC TCTGTGACA ACCCTNCAG TCTTACAAC CCTACCGTT ATGATTTTG 780
 NAATTCTAC CCTCNGCAT TTAGTTGTT NNNATACCT TNGNCCCGG GNGGACTTA 840
 45 TCAN 844

(2) INFORMATION FOR SEQ ID NO:485:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 676 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1343UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:485:

5 GATCGATTAA AGGAAGCATC TGCTTCCCGT CATATCATAT AACATTGTAC CCGGGGCTGA 60
 GGGGACCAG TAGCGAATTT GATAGCAGTG TTCTCCAGT CCGGCTCCA CTGTGAGCTC 120
 CTTAAAGTAT ACGGCTTCA TACACCAGTG CCCACAATGA TCGTACTTG ACTTGTAAATC 180
 10 GAGAGCATTG GGCTTATACT GTGATTACGA TGAATGTAGC CAAGAGAGAA AAGGTTCAAT 240
 CACGATATAC AGTACTCACA TTCAATGGCAT GGCATCCCCA AATTCCAATA CAGCCATTAG 300
 CACCAATGTA GCGCTACTAA TCCGGGAGC TTAATTGGG TCAGTTTACA GTGAATCTCG 360
 15 AGCTTAAAAG TCAGATTGAT TAAGTAAGAA AATGACGATC AACAGGGTGC TCAAAATAGT 420
 TGATTACCAG AATCGGGCGT GTGTCTAGT GGTATGATTC TCGCTTTGGG TAAGCGAAGT 480
 TGCGGTTTAC TCGGCTTAA CTACTAAACA TGTGAGAGGC CCTGGGTTC AATCCCAGCT 540
 20 CGCCCCAAAT TTTTGTCTCT CGCTCCCGC GGGAAAGGTG AATATCAATT TACAAGTAGT 600
 TAACTCTCC CACGTTACGT CCTTCTGCAG ACAAGTTGCA GGGTTTACA ATGCTCAGGC 660
 TATTTTGGG CTTCAA 676

(2) INFORMATION FOR SEQ ID NO:486:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 827 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1344RP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:486:

40 GATCCTTGG TACTAAGAGT TAGACTTTAA TTAATAATAT TATTTGTAGA AGATAGAAAC 60
 CATACTGACT CACGTGTAT TTAACCCAAC TCACGTAACC TTTTAATTGA CGAACAGTCA 120
 AACCTACTT AGCTGTTACA ACCAAGAGGA TAGGTTGAGT CGACATCGAG GTGGCAAACA 180
 45 TAACTTACAA TAGCTACTCT ATCGTTATAT TACCCTGTTT AATTTTGTGA TCATAATAAC 240
 ATTTAATTAT TATTTCAATA ATTCTCAATTA TTGTTTCAAG TATTTCAATTA TGTATTATTT 300
 ATTAATTAAAT ACATATTGGG CTTTCGTGGA TATAATTATT GTTAATCCTA CTCATATATC 360
 50 TAGTCGTGA ACGTCTTAT AACTTTATAA AAAGGATTGT TATAAGCTTC GCTGCAGATT 420
 GTCCCTTATT ATTATAAAAT AATATTAGGA GTTCTTTGCA ATTAACCCAA TTTACTCAAT 480
 ATATTTAAAT ATTGATAATT AAATTCACA ATTTAATGGG ACTATTAAAT AATCCCTAGC 540
 55 GTAACTTTTA TTGTTTATC AAATACCATT ACAATATGTT ATATTTGTTT ATTATGCCAA 600

ACTTAAGTTA TTGTTCTACT TGTAGTATTA CNAATTATAGC ACAGTTACCC CATCATATTT	660
ATTTAATANA TACCCCAANT AGNTTTTTTTT ANCATAAAAA GGANCTAATT TCCCTTTTTTT	720
CNCCAANTCC NNCTCTCTCA ATATTNTTAA AAATTTTAAA CNNAANTAAG AAACCCCNIN	780
TNAACCNCAN CTTTTTTCAN GGCTTTTCAN CCTNTTNAAT ANCCCN	827

(2) INFORMATION FOR SEO ID NO:487:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 872 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1344UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:487:

GATCCCTTATA	AAATGGGCCAA	TAGACGTGTT	ATAATATAAT	ATACAAAATT	ATAAATAAAT	60
ATTTAATAAA	ATATAAAATT	AATAATTAAA	GTATTATAAT	AATTAATAAA	ATTATTTTAT	120
AATAAGTATG	GATTTTTAAC	TGAAATTTGT	TAAAAATGAA	TAAGAATTGC	TAGTAATCTA	180
TTAATAAGAA	AGTAATGGTG	AATACTCTAA	CTGTTTCGCA	CTAATCAGTC	ATCAGCGGTT	240
GAAACATATA	ATTAAATAAA	GAATATTAAAT	TAATTTTATTA	ATTATTAAAT	ATTATTAAATA	300
TTATTTAATA	AATATAATAA	ATATTTTAAAT	TTAAATTATG	AATTAATGCG	AAGTTGAAAT	360
ACAGTTACTG	TAGGGGAACC	TGCAGTGGGC	TTATAAATAT	CTTTAAATATT	CCATTTTTTAT	420
ACAAATAAAAT	ATATTTTTTTA	ATATATTTTTA	TAATAACTAT	AATTAAATAG	TTAAAAATTTA	480
AATTATAAAT	TAATAATTTA	ATAACTTATT	AATTAGAGAG	TTAGGGTACA	TCCCCCCTAA	540
TGCTATGCAT	TATGGTTGGT	ACCACTCTAA	TTAATAAACT	ATAATAAATA	AATACTAATA	600
TTTTATATCA	ATTAAATTAT	AATTATTTTT	TATTAATATT	TTAATATTAT	TTAATGAAAT	660
ATATAAATAA	AGTATTATAA	TTTAATAAAT	AAATAAGAAA	TGAAGANAAC	GACTCTCANA	720
ATTAAATTGC	ATTINATAGTT	TACCATTAAA	CAACATTCCC	TTATTTCATAT	TATTTNATCN	780
ANLAAPTAAT	ATCTTATTAT	TNATTAGAAG	GANAGGNINC	CNCCCCAAT	GCTNNGCATC	840
TTGTGGTACC	NCNNATTAAA	AAGTTTACAT	NA			872

(2) INFORMATION FOR SEQ ID NO:488:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 835 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1345RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:488:

GATCCCAACG TCTGATTATG TGTGTGAATG CTGTTCTCCT GCTCCTCCTG AGTCTCCTTA 60
 GCGTTGGCCT TGTACACTTT GCCGTATGTT CCTGCTGCAA TATAGCCGAT GATTTCGTAC 120
 TTCTCCAGCA CTGACACCCCT ACCGGGTCTT TTCCGCTGCC GATATGGCCC TATCGAGAAC 180
 ACATTGTTAT TCGCCATTAG CATCGGCGAT TTGGACGTGC TGGCGCTGCC TTGGGTATCG 240
 AGAAGCTGCT GTTGCTGTTG CTGCGACAC AGGCTCCGGG TGGATGCCCTG GTTGGATAAG 300
 TTGAAATACT TATTCTGTTG TGTTTGATGC TGATTATTC TACTATCGA GGACTGTAAA 360
 CGTATCCCCA TAAATAGAG AGCTCGAGCT ACCACCTGAC GACTTGTGTT ATTGTAGTG 420
 TTAAATGGAT ATCGGCTATG TTCTAAGCTC GTTTTAAAGT GTAAACATT GCAAATCCAT 480
 ATGCACACAG CTCATCCGGT TCTACCGACA ACCCTCTTGC GACCGGAGCG GTGGAGCTGG 540
 GGTGGATAGT TCCCGAGCCC CTATGTAGTA TATACAGCGT GCCACGGCTG CGCCTGGCGG 600
 GCTGCAGGGC CTCAGCAAGA NIGCCCCCTC CNGCACTGCT TTATCCTCCT GAAAGCCGTA 660
 CAACNCGGG NNAATAAGG GGCACCCAAA GCGCCCGAN GCGCCCGAT AANAACNTGA 720
 CCAGCCTAG NGAGGCCCCG AAANAACANT GCGCTTTTTC AGCGGGCGCT CGCACAAACC 780
 CCAAGNGGN TCCCNITGG GNITTTAAT NGCCNNGGG ANGCCCNIT NCTCT 835

(2) INFORMATION FOR SEQ ID NO:489:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 863 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1345UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:489:

GATCCGCGT CAGCGCAAGC CAGTCTACTG GGGACGGAG ACCGCGACAG CATTGGCGGA 60
 GGGAGAGCTG GAATATCGCG ATGACCACAT TTGAAGCA GCTTACGTTT ACTTTCCGCT 120
 AACGGAGGGC GCGAGCGCCA CGCTACGGA GCGCTGGGC ACGTCCCTCC CAGAACAGCC 180
 CATCGTGTGT CTCATCTGGA CGAGTACACC GTGACTCTG CTGTCAAACA GAGCATCTG 240
 TTTCACGAT GACCACGGT ACCTGCTTCT GCAATGGAAG GGTATGCTGG TGGTAGCCGA 300
 GAGAAGTGA CTAGCTGACT TTAAATGAG TGTGACAG CCGTGGTGG TCACCTCATT 360

CCGGGTTCT GAOCCTCCGG GGCCTATTA TACCAATCCA CTTCTTGGG ACCGCGTTAG 420
 TAGGCCGCTG CTGCATGGAG ACCATGTCAC CGCGACACA GGTACTGGTC TGGTACATAC 480
 5 TCGGCCAAGG CACGCCAGG AAGACTACCT AGTAGGTCAG GCGCAAGCA TTGAAGTCTA 540
 CTCGCCAGTC GACCATGAGG GGAGGTATAT TCTGGATGAT ATTCTCCAC ACCTCCGTGA 600
 TATGCTAAGA GAAGAGAGCG GTAAGCCGCT GAAGGTTACA GACCACAAAG ANTGCNGGNT 660
 10 CTTTCATCAGT TTGCTANAAA AACCCAAGAT GCTCCTGCAT TCCCTGAATA CCACNCTCNT 720
 NTCCTNCAA TGGAGTCNAA NAACNTGTTT TGNAGANCTA CCCNCCGTN GTTGCNAACT 780
 GATGGACTGA ACTTCCCCCN GGAAACCTGA ACACTTTATT TTTCCCTNCC AGGGGAAAAA 840
 15 NCGNICAAGG TTCTCNAAAN CGA 863

(2) INFORMATION FOR SEQ ID NO:490:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 836 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1347RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:490:

GATCATCATG CCAGCGCCCA TGCCGCGCGG GGCACACCTT CACACCCACC CGTAACTGAC 60
 AATACTCGAG CACCTTCGTG CGCTGGCCCG CTGGCGGCTG CCTGGCCCAT TATGCAACCA 120
 35 CCCACACGTT TTATTCCACT TAAAAATTAC TTAAGCTGAC GTTACGCTG TTGAAAAATT 180
 TTCGCTTCAC GGAATTTTTC TGGGTGAGAT ATAAAAGGG CTAAGTTGCA CAGTGAAAAG 240
 GTGAAGTTT TTGTGTTTAG ACTTCTTTTA TGACCTCATA GAAGGAATTT GGGAAATCTG 300
 40 ACTTTCTAGC AGCCTCTCTC CAGTTGGAAG TGTTTACATA CTACTGCTAA ACGTGGCCTA 360
 AGTTAAGATT TTCTTTTCTT TAGTTTFAAA CTCAGTACCT TATTCCATAA AGCGACACTA 420
 CGATGTCTTC TAGATTCTCC CTCGTCTCGA ACCTAACGAG ATCCTTGAGC TCTGTGGGGC 480
 45 GGATGCAACA GATGCGGTTT GCATCGTGA AGTCGATGAC TGTGGGGAT GGGTTGAACA 540
 GTGCGATGCC CGAAGAGATG GACCCGTGAT GACGATGTGT TCATCATCGG AGAGAAGTTG 600
 CGCCAGTAC AACGGTGCCG TTACAAGTCA CCCAAGGCTT GTTTGACCGT TCCGGNAACG 660
 50 CGGTINGING ANACCCATCA CCGAAANGTT TTTGCCGTCT TGGTGGGTN CNOCTGAAGG 720
 CNTGACCCTA TGTCAATCAN TNGTTCACTC TCCAGCAGCA NGACANTTCT GAATCCGGC 780
 CAAATACANN TCGTGTGTG CNACNVCAN TGTTTCCAGC NAAGNGGNC NCGNNC 836

(2) INFORMATION FOR SEQ ID NO:491:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 869 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1347UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:491:

GATCCTACAG AACTCAACTC TTATATOCAG GACTCAGTCA CCGGCTCTGC AATCCGCAGC 60
 AGCCACGGGT GCTCCAGGCT GGGTGGGCAT TGGATGGGTG GGCACGACCC GAGTGGGCAT 120
 GTATTCTTGA TAACGTTAAT GTGTATGTTT ATGCTGGGCG AGCTGCAGGT ATTTGGCCGC 180
 CCGCAATCG GGAAGCTTTC TGCTGATTTT CAACAGCTGC AGGGCGCTCC TGGTAAATTT 240
 GTGGCAGCCA TTTTGCAAGC AAGTCCGATT AGAGAGCTAA TTAAGTCTGA AGCCCCCA 300
 CATATTTTAA GAGCGCTTTT CGTTCAACTG CCACTAGAGA GTCTTGCGAT TCTGGTGAGC 360
 GCGGTGTGTT TTTGGCTTTG GTTCATTGTG CTGGAAGAAC CGATTCTATT GCTTGTCGGT 420
 CTTATTCTGA CATGGACCTG GTCACCTCTG GTAAGTATAC TCTCTTTCCA TTGTTTGGG 480
 GAGCATTIGA CCGTTTGTCT CTTGCGATAC CTTCTAGTTT TGGCGTTATA CTGGTACATA 540
 TAATGATCTA AGTAAATCT GCAATATTAC ACACGAACGT TAAACTCGCC AGCTGGATAT 600
 AGGCAAAGAT TGCAGATGCT GTGCTTTTCG CTAATATGCG GGAAAGATGA GCAGGCCAAA 660
 CCAATGCAG AGTAGGTTTG TCATATAGTA ACCATCGGCG AGAATGACAA CTTCCGCCCG 720
 CTTTGAAGC ACTCCCCCTC GGAAGGAACA TCNATGGGC GAATTTTGGC CACCTTANAA 780
 TTNAANAAC TATCATCGCC ATAATACATC CGANACAATT ACCCCCANAA TATCAAGTAT 840
 CNGAAATTTT CNTANTTCN CCAATACGN 869

(2) INFORMATION FOR SEQ ID NO:492:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 772 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1348RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:492:

GATCCTTCGG CAGGTTACCC TACGGAAACC TTGTTACGAC TTTTAGTTCC TCTAAATGAC 60
 CAAGTTTGAC CAGATTTTCC GCTCTGAGGT GGAGTTGCC CCTCCTCTAA GCAGATCCTG 120

AGGCCTCACT AAGCCATTC AATCGTACTA GCGACGGGCG GTGTGTACAA AGGCCAGGGA 180
 CGTAATCAAC GCAAGCTGAT GACTTGGGCT TACTAGGAAT TCCTCGTTGA AGAGCAATAA 240
 5 TTGCAATGCT CTATCCCCAG CACGACGGAG TTTCACAAGA TTACCCAGAC CTCTCGGCCA 300
 AGGTTATACT CGCTGGCTCC GTCAGTGTAG CGCGGTGCG GCCCAGAACG TCTAAGGGCA 360
 TCACAGACCT GTTATTGGCT CAAACTTCCA TCGGCTTGAA ACCGATAGTC CCTCTAAGAA 420
 10 GTGCGCAACC AGCAAATGCT AGCAGCACTA TTTAGTAGGT TAAGGTCTCG TTCGTTATCG 480
 CAATTAAGCA GACAAATCAC TCCACCAACT AAGAACGGCC ATGCACCACC ACCACAAAAA 540
 TCAAGAAAGA GCTCTCAATC TGTCAATCCT TATTGTGTTT TGGACCTGTG AGTTTCCCCC 600
 15 GTGTTGAGTC CAATTAAGCC GCAGCTCCAC TCCTGTGGTG CCGTTCCGTC ATTCCTTTAT 660
 TTTCAGCCTT GCGACATAC TCCCCCGAA CCCCAAAAT TGATTCTCCT AGGTGCGGAT 720
 TGTTCATAA AAACACACCC ATCCCTATTC GCATATTTAT GTTAAATACA AG 772
 20

(2) INFORMATION FOR SEQ ID NO:493:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 823 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1349RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:493:

35 GATCGTTATA TATCAGTCTC TTGCTATAGA TTAATATAGA GCGCACCCT AATGTACAAG 60
 TTATAACTAC TGTAAACACG TTATATAACA GGTAGGAAAC GGGGCGCGCG GGGATTTTTG 120
 CCTATGGCTT GCGCAGGTAG CAACTGCTAT AAAGGGGAC GTTCTCTCCG GAGCTTTTTC 180
 40 ATCTTGCGCA GTTTCACCTG CTAGTTAGTT TAGGGCTAGG TCGACAAACA TATTCCACAT 240
 CGTTTTAATG GCTGGGTGAC CTGATAACGT CAAGGGCGTG GTTGAGCTGG ACCCTTGGTT 300
 AGCTCCTTAC GGGACATCC TCTCTGCGAG ACGTTCTCTT GCGACAAGT GGAGGCAAGA 360
 45 TATCGAACAT GCGGTGCCCC GCGGGCGGCG CAGTCTAGTT GAGTTTGGCG GCGACGCATA 420
 CAAGAGCTAC GGGCTGCACG CGGACGGGCA GAGCAAAAGC ATAACGTACA GGGAGTGGGC 480
 GCGCAATGCA ACCCGGGCGT TTCTAGTCCG CGACTTCAAC GGGTGGATGA GACCTCGCAC 540
 50 GAGCTCCAGA ACAAGGACGA GTTCGGGTGT TCACGGTGTG TTGGGACCTG GCGGACGGC 600
 GAATTCATAA TCGGCTACT CACCTTTTAA GTTGTGTTT AACTTGCCAC CGGAGCCGGA 660
 TACCCGGTTG CCACNITGAT TCAAAGGAC CCACCCACC AGAANCCAA GATTTGGGCC 720
 55 NCCTTACAAG CCGTCTGAC CCGCCCCCT ACATTCACCA CAAAGCCCC NGACCAACTG 780

ATNCTNAAA NNACAGNCC TTGCTCTCAC CCGACCCGTT TGT

823

(2) INFORMATION FOR SEQ ID NO:494:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 879 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1349UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:494:

GATCGCGAAA ACTAACGCAC CAAACCCGAC GGAAGCCAGA GCTCTCTTGT AAAGTGGCAA	60
GATAGTGTAT GTCTGGCCGG ATGCTCAGA GGATTCTTG CGAGCATAGT GGCAGCGATT	120
GACATATGGA GTTATCATG CAAAAGCAGT GGCAATAGCA AGACCGGTTT TGTTCGAACC	180
CCCGTCTCT TCTTTCATTA TTGGCCACAA GGAATTGTTT GAGTAGAAGG CCATCTTCAA	240
CACAACGCTC GCAACAAGGC CTAGAGACCA AGTAATGGCA AACTGCGCGA CACGCGCGTT	300
GTCTTTCACA ATGCTCTTCA AGGTCACGTC AAAGTTCATC GTCTGAGAC CCGTGGCAAC	360
CGCAACGCTC ATCAACCTCC ACTCCGGTTT CTCACTATG TAAGCTCGA TACCGATTAC	420
ATTAGCAAGT AAAGGGCGGT ACTGTTGAAT CAACGTTGGG AAAAATGGAA CATAAAGCAG	480
AACTGGGCTC AATACCGCG CTATCACCCG CCTCATAGCC GGAGATACC ATGTACCAGA	540
GCGGAAAAA CCATATCATA CACAATAGGG CAGTCAAGTT CGTCAGAAC ATAAACGAGT	600
CAAAGTACT GACAACAATG TAAACAGAC TTGCTGATT GGTGATGGG TCGTCGGCA	660
GGTAAACGAG TTCTGTGCT CCTGGTGAT AATCACTCC TCCAGCATT TCTCCATTG	720
CGCCGCGCC GAGTCCCTG CCGGCTAGA NAGCNGGTG CTTGTCTTTG ANTGCACAAC	780
CCCCNGAAG GCTGTGCC TGGGTGCCN AACTTTCCT NAGTCTCC AGTTTGCNTT	840
ACTTACCTC CNAAAAATC CAAATATCCN GGACNCCN	879

(2) INFORMATION FOR SEQ ID NO:495:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 829 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1350RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:495:

5 GATCTCTTGC AATTCCTGCT CGGTCCTCTT GTGATCTCTA TTGATCACCT TTTCGAGTTT 60
 GGTCGCTGA GAAAGCGTCG CAAAGTTGTT CATAAGTTTC TTATACCGTG CCAGTTTCCG 120
 AGCCAGCACA TCGTGCTGA TCGTGTGGAG CGCAATTGGA TCCCATCCG CGCCATGTT 180
 ATCCTTGACC GCGATATTGC GTGTGATGA AGTCTGAACG GCCTCGTGGC CTGGAAGTAA 240
 10 GGCGAAAAG TAAAATTATA TAGAACAGGC ATGAGATTGG CTGGAAGTTC AGGGAGCCAG 300
 GCCTCGTGGC AAGCAGCTTA GAGAGCCATA GGAAGCCACA TGCGCAGGAA CTAGAGATGA 360
 GACCCACCCA AGGTGAAGTC GCCCAGGCCA CAGGGCAGT CTTAGCAACG TGGTAAACAT 420
 15 TAAAAATAAT ACATACGTTA CAAGCAGCCG GCATAGCAAC TGCCTGAGT CATGTTTTAG 480
 AGAAAAATAG AAAAATTATT ATAATATTCC TTGTGTATGA AATAAAGCTG CTTTCCAACA 540
 CGCGCAGAG ATTACAGCCT GCCTGAAGCC GTAAAAGGAC GAAAAACCGA ACGAATAGAA 600
 20 TTAAGATAGA AAAGCAGCAC TCGGCCAAGG CGAAGCGGG CGGCAAGCC GCGCGGCTT 660
 TCCCTCNC NC TCAGCTGCAA ATGCTCTCA GTGGATCTG CTCCCTCTGT CCGCTCTCA 720
 CCTCTCCAC TCCTGTCNT ATCTTTTGA TGAAACNAG CTGACGCGCG TGTTCCTCC 780
 25 ATCTCNC NC GNCCTCG ATAAATTGCT CAGCCTACC TCTTGGNG 829

(2) INFORMATION FOR SEQ ID NO:496:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 875 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1350UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:496:

40 GATCCGCAIT AAGCGGACG ACGAAATCAA TACCAAGAAG CTCGACGAG AGAAGGAGCG 60
 GCGCTCAAC GCCATCATCA ACGGGGAGC TAGTCATATA AGCGTGATA TAGCGCAIT 120
 45 AAAGGTTTAG CGTCATGAT AGTTACATAA AGTTAGAATG CATGCTCCG CACGCGCGCG 180
 TTCTACTCG CGAGCCAGC CGAAAGCGG TCCTGCGCG CGGGTACGAA GAACCGCGC 240
 AAGAAGTGA GTTCTCCG CCACCGGTG TAGAGTCTT GGCTGAGTAC GTTGTACTTG 300
 50 ATCGGTCG CCTTGAGAT GGCATTATG AGCCACTGT TCTCGTGCA CGAATGCGTC 360
 GCGCGCTGC TGTGCGACTT CATCATGAC AATTGCGGA ACGGCTCGAA CCGCGTGATA 420
 AGCGAAGCA AGCAGAGCCC CCGAGGTAC ACGTCCGTG TGTGCGTCG CTGGCGCGCG 480
 55 CCGATCAAG CCGCGCGCA GTACTCAAG GTCTGTGTA GCGGCTCCG CCGCGGTG 540

CACACTGCCG CCGACGTGAA GTCCGCCAAG AATGCTCCTG CCGCGGCACG AGCACGTTTG 600
 CGGTCTTGAT GTCCCGGTGC ACCACGCAGC TCTCGGAAG GAACTGGAGC GCCCCAACAA 660
 5 GGTCACGTGC GTACCGCCAC CACTGGCCTT TGTNCGGGC GCGCGCCGGT GGNCCGCTTC 720
 CANGTGGGGT TCAACCGCTC TACACAACGC CCGGACCNCC TCGCCACCGC GAANCGGCGG 780
 GTATCCCNAC GTTTCNCGCC GGNCCCCGN GGAANGGACC ACTTNCGGTC NOGANCNCC 840
 10 CCGCCNGGT GCAAGNGGG AATTNTTAC CTTCT 875

(2) INFORMATION FOR SEQ ID NO:497:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1351RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:497:

GATCATAATG ATTGTCCTTA ATTCTTTTCT TAATTATTCA TTAAATAATT AATTAATATT 60
 TTATTAATAA AAAATATTTA GAGTTATGTT CGTTTATGAT AAATTCTAAA ACTTTGCAGC 120
 30 ACGAACTGAA GACAACTATG TAAAGCCTGT AATTAATTAT AAATTATTAT AATTAAATAT 180
 TCAAAAAATG GTAAGATTTA TCGAGGATTA TCGAATTAAA TAACATGTTT CACTGCTTAA 240
 GTCTGTAACC GTCTATGTTT TTGATTTTAA TTATTGCTAA CGTAGTCATC AGGCGGAATA 300
 35 CTTTAATTTT CATTTAATTT ATTCTTTAAT TAATAAAAAA TAAATAGGTA TTCATTGTTT 360
 ACTGCTAAAA CTACTCGGGT ATOGAATCG ATTTGCTACT TTAGCCTTCG TTCTCAATG 420
 TCAATTAATA TATAATTTAA ATTTTCACCT TATAAGTCTT ATTCATATAA TTATTATTTC 480
 40 ATCTTTACTT GAATAATTCT TAAATTATTT TTATTAATTC TAATTATTAT TTAAATAAT 540
 CATCTACGAA CCTTTAAGC CATTACGAAT AACGCTAACC CCTTTGCTTT ACGCAGCTG 600
 CTGGCACAAT TTTGGTTGGA NGANNTAAT TATATATCTC TTTTAAAAAT ANAATCTCCC 660
 45 TCATATTAAT AATTTTATAT TGANANTAAT TATCNNTATT TAATAATTAT TGAATTTATT 720
 GTTACCCANA NTAANAANAN ATTATTATTT ACATCCCCNA GTACNGANCA CTTACATTG 780
 CCAATCCCN CGCGTTCCNA NAAATGATAT ATTGNANCAC GGATNTCTTC TT 832

(2) INFORMATION FOR SEQ ID NO:498:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 863 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1351UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:498:

10	GATCATATA TTATAAATA TAATAAGAA TATATTAAA TAATAATAAT AATATGAAAT	60
	ATTATATTAA TTCTCCATTG GAGCAATTG AGATTAGAGA TTTATTAGGT TTAACATCAC	120
	CAATAATAGA TTTTAGTTTT ATTAATATTA CTAATTTGG TTTATATCTT ATAATCTTT	180
15	TATTAGTAAT TTACTAATG AATTTAATA CTAATAATTA TAATAAATTA GTAGGTCTA	240
	ATIGATATTT AAGTCAAGAA ATAATTTATG ATACTATTAT AAATATAGTT AAGACACAGA	300
	TTGGTGGTAA AGTATGAGGT TATTATTTTC CATTAGTTA TACATTTTTT ATCTTATTT	360
20	TTACTATAAA TTAAATTAGT ATAATTCCTT ATTCATTTGC TATAACTTCA CATGTAGTAT	420
	TTGTAGTATC AATAAGTATA ATTATTGAT TAGGCTAAC TATTATTGGT TTTTACTC	480
	ATGGTTTAAA ATCTTTGGT TTATTTTAC CACTAGGTAC ACCATTAATT TTAGTACCAT	540
25	TATTAGTATC AATTGAATTA TTATCATATT TTGCTAGACT TATTTCATTA GGTTTAAGAT	600
	TATCAGCTAA TATTATAGCT GGTCATTTAT TAATGTTATT TAGGTGGTTT AATATTTAAT	660
	TTAATAGCTA TAAATATTTT AACATTTTAT TAGTTTCTTA CCCATGAATG CNAATTTAGT	720
30	ATGGTTGTTT ANAATTGGCC ACCCTANTAT CCACCTAANT TGAGGTTTTT TAAATCCNC	780
	ATTTTAAAA TCCATTTATT TACATNNATT AANAATAANA TATTTAATAA TATCCANNAT	840
	TNAANATTTT ATAANTTTAA AAN	863

(2) INFORMATION FOR SEQ ID NO:499:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 831 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1352RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:499:

50	GATCCTGCAT CGTTTCGTG GCTGCAGGT TGATTTTGT GCTCTCAATT TTATCCTTTA	60
	TCAAATTCAC AACCTGGCAA TCCACCTCAT GCTTTATCTT CAACGAATGC CTCATCGTAT	120
	TGCTAACCT GAGGACCATC TCCACCTTCC GTTTAACAAG CTGACGGTA TCTGTGTCA	180
	ACAGGTTTAT GGCTGGGTG TCGACCCCA ATTGGGCATC CCAGGCAGTT ACGTGATCTA	240
55	TGTTGTTCTT GGTGTTCCGA GAGAAGGAT ATGTAACOGA CTGCATGTTA AGAAGGCGT	300

AGGGGAGTCT CTGCTCCCGC ACGTCCGCGT CGAGCAACTC GCTGGTGTG ATGTTGATGG 360
 CGTCTCACA CAAATCGCTC AACAGCGAAA GCTGCTTGAA GGGGAAGCGC ACGTGGTGA 420
 5 ACAGCGACCG TGCGTCTTG CCCGAGCGGC TCGCGCGCG GAACGGGTTG TGCTCGTGT
 CGACAAGTT CGGGCAGCTC AGGAGCGGAT GGAGCATCAC GGGCGCTGC TTGCGAGGGC 540
 CCAGGTGCT AGGGTCCGGC TCGCGCAACG CGAGACCTTG TACTCCGCG CCGCGCCGG 600
 10 CTGGCGAGC GCGCCNGTCA GTCTCTACA CCNCTTGACT CCCCCACTC CTCGCTGAT
 GACTGNCGC GCTCTNCATC CGGTGCTCGC ACACNCACAT CTCGGAATGN TTTCACCCAC 720
 CACCCNGAC AACTTTCCAC ACCCGGAAAC TCNNTGNT TINGGACCT GTCTTTACNC 780
 15 TCCAATCCN TCTGCTGCAT TTTGNAAAA CTCGCCCAA CCCACCCCTC N 831

(2) INFORMATION FOR SEQ ID NO:500:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1353RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:500:

GATCTAACTA TTAATGTGTT CCTTGAAAT GTGCTGAAAT ATAACGAGCT CTTAAATGAT 60
 GTCTATCTTG ATGACGATGT CGTCAAGTTG AGCCAATGGG TACTTCAAAC GTGTAATGAA 120
 35 TAAAAATATA CAAGCGCAA GCGCAATAAC CTTTACCTA TATATCTTGT AATATATTA
 GTTAATTGAA CCATTTACGT GCCATATTCT GCGCTGGCAT GGTATCCGTG ATTTTATAAT 240
 ATATATTTCT CGCAGGGGAA GCAGAAACAC TCAAGATCGG CGATTCCGA TAAAGAATT 300
 40 GCTCCCTGAT TGATTGTGTT TCGAAGGAGA TGCAGATGGA TTGTCCAGAA AAACCGTTT
 TAAGACTCGT TCATCAAAC TGTAAACCA TTGCCATCG GCTTGAGTA TATTGCCAA 420
 GGTTCGCGG ATATTTCTTC TGTCTAATGA TAATGTTCC ACAGGCTGCT CAGCGCTGA 480
 45 TGCAGAGCGC GAAGAGGGTC GGTCTATCAT AGGAGGAAAG CTTTCTTGAT CCGGGGAGCC
 GGTGCGGCTG TCGGCTAAAA ATGGAGGTGC GTCTAATGAA GACATTAGCT GGACAGGTCT 600
 AGGGGCTTCC ATATCAAATT CATCATCGT ATCTCTCTGT TCTTCTAGC ACCCTGTCT 660
 50 TATGTTTGA TCTCCAGCAT ACCGAGTAT ACCTCCCAAT ATGATACGGT GAGAACCCCA
 CTACACCCA GTGGCCNAAA AGAACTTGAC CCGCTGTCAC CTTNATGCA TCCACNACC 780
 CACCCCCCA ATCNCTGT ATGGTATGAC CCTCAGANAN CCNCTONGA TC 832

(2) INFORMATION FOR SEQ ID NO:501:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 877 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1353UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:501:

15	GATCGGCGCA CTCGTGGTTC CATGTCTGTC ACAAGTTGAC CACTGTATAC CAGTTTGACA	60
	TCAGAGGGCG AAATCATCAG TGTGTGGCG TACACAGAGC AAATAAATC CTTTACTTCC	120
	TGCACGGTGG TGTCGACTGT CACTTTCATA GTCTTCATCG CCAACACCGA GTCCGAAACG	180
20	AACTCGATAG TTACACCATC CCCGTCTGCG CCGTGGTTGG TACGGACAT AATTAAACAA	240
	TGCCAGAATG GGGTGGGCGC AAAGTCAAAG CCAATACCT CCGTGTAGGCT CAACCCCGCG	300
	TGTTCTGCGG CGTCTTGGC GCCCAGGTAC ACAGGGGTAC GATCGCCCTG CAACTTGGAA	360
25	TGCAAGCATG TCGTTGGGCA CATGGTTCTT GTTGAACAC AGGTTCTTGC AGCTGCTGCG	420
	CTCGTACTCG TTCACTATAT CACATGCCAT CGTCCGAGC GCCAGCACAG ACGTCTTCAG	480
	AGGCACAGT TGCCCTATCA CGCCACAC TTTATCCATG GAAAGCGTGT TGACCTGGAA	540
30	CTTGAAGTTC ACATACGCA ACTCACTGTC GGCATCGTAA GGCAGGTCTA CAGTGGCGCC	600
	TCCGACCTGC TCCGCACATC CAGCTCCAGA TGGACCAACC CCGCGCCGCA GCGTGCATC	660
	TCCTGCACA ACATGGTCAG ATTGAGCGG ACGCTGTTGG TATTGAGACA GTATTGCTCA	720
35	GGCGGCCAAG CGGCATGTTT TCCCTGATG CATGATAACC AATGCCNTAC TGCNATACT	780
	NGCNACTGAT AANTTGGGGG ANGCCCCCCC NTTCACGAAG AAGATCCANG CTCCNTTCA	840
	AATAGTAANN CNGANTGAAC TGGCGNATNC CNAATCT	877

(2) INFORMATION FOR SEQ ID NO:502:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 871 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1354UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:502:

55	GATCGAACAC GCGTGTGCA GGGAGCTTAG GGTGTTGTGC ATCCAATTGA GATCGAAGCA	60
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AAAACCGACC ATGCTTGTG AACCAGAAAGG CGGATGTAGC ATGGCCCTTT CCCAACGGTT 120
 GAGATCCTGG TTGCGCCCTC TTACCCTTGT CGTAAATTCT CGCAAAGTCA GCTTGGTCCG 180
 5 TCGTCAGCAG CGCCTCAAGG GCATGCCCCA GCTGCGACAG AATGATCTCG CGGTCTGCAG 240
 AAGAGTCTGA GCTCAAGCTG AAAATTGGGG GGGCCTGCGA CCGGCCCTGC AGCAGCATTG 300
 ACGAGTCAT CTTGCAGCAC TTGTCACCT GGGGCTCTTT CCGCAGCAGC GTCCGAGACA 360
 10 GGTGCCGACC ATTCAAGGCG CGGAAGTTGG ATAGCAGATA ATGCAGGTGC GACAGCACAC 420
 CAGACATGCG ACTGGTTGAC GATACATAAC GTGCTTGCCC TTCTTTGGCG CGCTCCAGCA 480
 GTCCGAGGTC CCGGAGGGG GGCACGAAGT CTGCGATGGC CTCAAATCGA AGTCTGACAC 540
 15 CTTGATCACC CGCTCGATGA AGGGCTCGAA GTGTGACACC CCGGACCGCC GGTCCCGGAG 600
 CGGCACCACC GACAGCGGGC TCGAACAGGC AGCGTTCCAG CCGGTGCGCC AGCGCGGGCG 660
 GCAGCTCTGT TGCATGCTC NINOCACCCC ATTGCTGAAC GCGCCNIGAT TACAAATTGT 720
 20 TNCCTCCCG GCGCCGCTTG CCGCGGTGCG CCTCCCGCG CCGGGCACCC CCGCNCNNNT 780
 GGATGANNGT TNCCTGATTN NCCAAACCCG TTCANNITGT CCGTTTTTNT CANGGNCANT 840
 25 NCCCNNTCNT TGTNCCNNIT NAATGCCCN C N 871

(2) INFORMATION FOR SEQ ID NO:503:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1166 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
- (A) ORGANISM: PAG1355RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:503:

40 GATCATGGCC AAAAAATTGG GAATAGGAAA CTGTTTCCAG TACTCATCAA GGTGAGTAAA 60
 AATGTTTGCC AGCAGTGAAG ATTGCATCCT TATCTTGCCA TTTCGGGATA GGACATTTGT 120
 TTGATATAC CTGTGGTGAG AGGAAAAGAG TGTTGCCAGT TGGGTAAGTT CTCGTAAAAA 180
 45 CAAATAAACT TCTCTTCTGG AAGTCTTACC GTACGCGATT CTATTCAAAA TCCTCTCCAA 240
 GTCTGGCCA TCAAGCAACA TATTATTTAA CCACTCAATG AAGATATTAC CAACTTCGGT 300
 TGAAATGCAC TGAAGTGGT CCAATCTCTG TTGTATCTGA TCAATATTTA TTAAAGGCTT 360
 50 TGCAATCCAG TTCTTCAAGT TCCTTAACCC GTAGTTTGTT CTAGTATGAT CTAATACCCA 420
 TAACAGGGAG CCTTACTGC TCCTATCTGT ACTGTTCTCA AAAATATCTA AGCTTTCAAT 480
 AGCGCTAAGA AGGAAGAATC ATGTGCGTCT TCGAGCAGAA TGGTTTAAAG TTTTCTTGA 540
 55 AGAAGAGTAA ACNNNCATTT TTGAAGTTTG TTAGGTAGCC ATGCACCAGC ATGAGCGCTG 600

TTTGCAGAGG AACGTTGCCC TTAAAGGCTG GGTGGGCTC ACTGAAGATT TCTTCATACA 660
 ACCCGACGAG CTOGATCCTA TTTAGAGTGA TATCGGAATC TGAAGTATGA AACACCTTTT 720
 5 CGATTTCCTGA GCCAAGGCCA TCTCCGACCA CAACTTCACT CGGGTTTGTTG TATTTTATTC 780
 GGGTCTCCAA AGCCTCCGTC AGAAAAGCT CCTCTTTGAA GTCATCGAAG ATAACCTTAC 840
 CGCTGTTGAG ATTAACACTA ACCAGGAAGT ATCGCGTGTG TGAAGGTTGT CCGTTGCACA 900
 10 CAAGACCCCA CACAGAAGCG CTATCACCCA GGACCGACG ATCTTTGGTT CGAACGTTCT 960
 ATTGATGCCA TAGGTAGCCC TGTGGAATAT ATTGGTACT TCCCTCGAGA AAACAGAGCT 1020
 TGAGTCCCA CTGTCTTTT TCACTGGGA TGTCTGTGTC TGCTCCAGA CCCCCACTTT 1080
 15 CAGATTGTGG TGCATCAAGC GCTGCAAGTG GACTTCGAGA CGGGTGTCTG GGAATGGTGC 1140
 AGTACGCAA CTCTTTGTGC TTGTGA 1166

(2) INFORMATION FOR SEQ ID NO:504:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 887 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG135UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:504:

GATCATGCTA TCAAGTGCAG AGAACCGGA TAGAGCCTAC TCTGCAGGTT CGGCCTGGCT 60
 GAGGCGGGG CAGAAGTGA AGAAGCGCC AAATACGGC TTCCGGCAGC AGAGGCTGAA 120
 35 GGCTGGCAG CCGATCCTGT CGCGCGAGAG CATCTCCCA CTGCTAATAT TGCTGAGGG 180
 GCGGTTTGG CCAATCGGA TTGCGCTGAT CATCAGTGA AACACGTCG AGAACCTGGT 240
 GATCGACTAC AGCAGTGGG GCAAGCAGC CAGTCCGAA TACAGGCCA TCCCGAGAA 300
 40 CCTGGTGAGC TAACACTTCC GGAAGTCCAT GTCCGAACAG CCTAAGTGGC GGCTGCATTC 360
 CAAGAATGAG TCGAGCTAG AATTTGAGAT CCCCACGAC ATATCGAGCT CGGTGTACAT 420
 ATACTACAAG CTGACGAAT TCTACCAGAA CCACCGAAG TACGTGCAGT CCTTCGACT 480
 45 CGACCAGCTT AAGGGCAAG CTGTTGCACC AGACAAGCTG TCCGACAGT GCCACCGCT 540
 CTCGACTAAG GACGGCAAG CTGTCTATCC CTGGGGCTG ATCGCCAACT CAATGTTCAA 600
 CGACACCTTC ACGCCGTTCC TCCGGGTGT CCAACGGGT CCCCCGACTA CAACTCAGCC 660
 AACAAAGAAC ATCGCTTGGC ACACNGACCG CAACAGGTTN CAAGAAGAAC AAGCTACAAC 720
 CCGCCAGANA TNGTGCCGC CCCCCTCTG GCACGAACGT TTCCCCNAA TGGNTANNAC 780
 55 AANCAACCT GCCTGACTTN CTACTTGGGA GAATTTCCCG TMTTGGANTG NNCCCTGCAG 840

NOTGCCNCT NNTAAAGCTN CNTNCAAAAA AAAAGCAACN CCTTCC

887

(2) INFORMATION FOR SEQ ID NO:505:

5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 823 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1356RP

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:505:

GATCTACATA TGCATCAAAA CATGTGCTT CATGCCATC AGTAGTTATG TTTGCGCTGA	60
GAGGCGAGOC ATTTCAGCT TGTCTGACA ACTCCATATC ATTTGCATCA TCAACCTCAT	120
20 TATCGCTATC ACCATCCTTA GTGAGTATG GAAAGGAGGG TGACACAGCA AGGCCAGAGG	180
TATCAGTTGA AGACATATCT GTGCTCATGC GGTGGGCGGC ATCATAGTCC GATGACTTCG	240
TGGAGGATTT AAAGTCATTC TGGGAGGAT TCTGTGCTC TACTGACCTT GCAGATTCTG	300
25 TTTCACTTTC GTACAGAATG GACTCATCTT CGAAGTTCAG ATCTATCGGT TTGTGATCAT	360
ACGCGACTCT TTTTCAACC TTCTTTGTCG TCATTGGCAC GGAGTTTATC AAGCTAGAGC	420
CCAAGGAATG CTGCTTATCA AAGTCTCTCT TAGCCATGGG CATTTGCTAT CTATCATCTA	480
30 TCCCTTGCTT CGAACCATAC TTCACCTGGT AGCCATACCT TGTATATATA TAAGAGTTGC	540
GATAATGCTT CGTACCAGAA CTACCGGCAC TGCTAGACTC CAATATGGCT TGGATGAGGA	600
CTGCGCAGCG GAAGTTTACT GCCATCCATA TCAATTTCGG CNTGGCTGCC ACATTCGAAA	660
35 ANANTAAGAA GAAGTACGAC TAATCTTCCA CTNGCTACCC CGTCCNTAGC AGCGAACCGG	720
CTGCTGTCTN NNCATCCAC CCGGTGCTT GCTTAGCTCC TACNCCNTG TGGTTCATA	780
ACCCACCCCG TGTCACCCCA TCCCTGANC ATNTGAGAG ANN	823

40

(2) INFORMATION FOR SEQ ID NO:506:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 873 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1356UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:506:

GATCTGAACC ATATTACCAA AACCAACAA AGAATTGGG CCAAGCGAC CGTCCGGC	60
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55

GTAAAGCCCT ATAACCACT TACGGTCTG TGGGCGCCAT AGAAATTTCG ATTTTCAACG 120
 GAACCAACAC GTCAATCCCA AACTACACTT ATCATGCCCT AAAAGGGATT ATCTTTTCTA 180
 5 ACGAGGAGGC CCGCCTGGC AGTAGGAAGC GGATCTTAGC GGCGTCCGGC CGGCACATTC 240
 GGCGTTTGA CTGCAATATC CTACTTCTG AGCGGAAGAT AGGCACGAA AATCTGCGGC 300
 GGAGCAAGCT CAGAATTATA TGTAGGACCA AACATTGTCA GCAACGGCTG CCGGAGTTC 360
 10 TGTTATCGAG TAGGGGGATT TCCTGCGAAT GCGGTTCCTT TTATCGTTC CTTTTTTGAG 420
 GGGCATCTGC AGAAGCGATG AGGTCCAAAG CATCTGTGTG CATCGATCAC CGAGCCACAC 480
 GGGCAGGTAG AGTAAAGCCT AGTCACCATG GTGGTAGTTC ATAATAGCG CGGAGGCGCA 540
 15 TTCCGATACT ACGGGGTAA CCGTGGAAAC AAGGTAGCGA CCGGGCGGG GCTTTTAGGC 600
 GACTAGGACT ACAAGTACCT GTTCACGCG CAGATATTCA AGCGCCAGAG AAGCTTCAGC 660
 CATTTTCTCG ATCNATGCAA AATCCCGGT GTTGCTTGGG TGGCNTTTGG GGNINCAINC 720
 20 CCGNNGCAAN NCTGGCGGNT TNNITNCC NCCAATNNTG AATACCGNG GNGGGAANTT 780
 TGAAAGNAA NCCNACATNC TTATTGGGCT TNCNGTGT NGAAAGGGGC TTCNTNNAAG 840
 GNGAATANN CCTTGNAA TCCTTAANAA AAT 873

(2) INFORMATION FOR SEQ ID NO:507:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 840 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1357RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:507:

GATCCAGCG AGGACATCGA AGAGGGACTA CTGTACCCCA TGGACAAGCT TCGCTGCCGA 60
 TTGATGAGCG AAGACCGAGA TGAAATGACA GATGGCGGGA CCGTCCGGAG CGTGATCTGG 120
 AAGGAAATGT TTTCTGCGGT CCGTATGGTG TCCAGGCTCA TGGTAGTACC TGCATGATTC 180
 45 TGCTTTTCG TGATCGGCTT CATGGTGGGC GTTAGCGACT TATAATAGTC GGTGCGGTT 240
 GCTGGGCAA GCAGCTGGCA TGCAGTGTG TCCGACAAAT AGGAGTACCG GTTGGTGTTC 300
 TTATTGCTGG TGTTGTGAGA AATGTTTGA AAGGAATAGA AACCATTTTC CATGGTGGTC 360
 GAGGGCACTT GCGAGTCTG TCGGGTGTG TCGCGACAT GACATTTTCAT TTCTGTTCCT 420
 50 CCGCCCGCTT CCGCAGGAAA ATCGCGCCGC TGTGCGGCA TGTCTCTTC CTGCTGTGT 480
 CCGTCTGTG CCATCTCCCC TAGGGCTTG CCGTGAAGAG TTTCAAAGCT TTTGAACCTC 540
 55 AAGGAGGCG AGCGCGGCG CAGGAAACGA TATCGCTTA CTCTCTCA GCTTCCGAT 600

AGGCATCTCN ATGCCATTTT ATTAATATAT TTCCCCCGTC CGAACCCCAA ATGTATGTCT 660
 CCOGGTTGGC AAGGGATTCC GACTTATATA TTATTTGATG TOCACCACAG GTTTCNAAA 720
 TATTATACAT CNAITGCCNA ACCTCCCCNT TATNCATCAT CCGACCCNCC CNCATTTGTA 780
 CNGACTAACN TGCACATNCC CCNATNINNT AACCCATCAA CNCACCTTNC CTGCCCCATCT 840

(2) INFORMATION FOR SEQ ID NO:508:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 888 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1357UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:508:

GATCCTCGCG TTCCCATGCA ATTGTGTGTC TTCGGTTGAC CCGATATGAC CTCAAAACCG 60
 GGTCCGAAGC CACCAGCACC TTGTCCCTAT GTGACTTAGC CCGCTCAGAG AGAGCAGTGA 120
 CACAGATAGT ACGCCGAAG GAGGGTGGT TCATCAACAA GTCAITGCTA GCGCTTGAA 180
 CCGTCATAGC CAACTTAGC ATGTTGGGAA GOCAGGCCAA TGGCCTGCAG CCGTCTCCCG 240
 CAGCCGGCCA CATACCGTAC CGTGACTCAA AGTTGACCCG CATCCCTCAG CCAGCATTGA 300
 CAGGAGACAG TATCATTAGC ACCATCTGCA CCATCGATTG GAAAGCCGAG TCCTCAACCG 360
 AAACGACCAA TACCGTCCGC TTCCGGTCTC GCGCCAAGAA TATCGCCCTC AACGTGGCCA 420
 AGAATGAAAT GGACTGCGAC GCGGAGAAAG ACACCATCAT CCAGAACTTG CCGAAGCAGC 480
 TTGAAGAGCA GCAAGAGACC ATTGTGATGC TCCGGCGCAG TGCTGCAGCG CCTAGCGGCA 540
 ACGGCTCGAC CAGCCCGCTG GACAGCCCTG GCGTCGGCGG CACCCAGCTT TGAGCGAGCG 600
 CACGCCACAA CATTCGAAAA AAGGNTGCT AAAGGTGAA AACAGCATCC TCCAAGAAGA 660
 ANCTCCGAGC CATTCGAAAA AAGGNTGCT AANNAGGAAA TGATGTCTC CGAAGAACCG 720
 CANTTTNCA NATTTTINAA ATCTCCCCCT TGGAAATCCC CCGTCCCCC CAAAACCAGG 780
 NTCAGGGGT TGATTTCCNC NGCCCCATTA CCGNVTACT TTCAAAANTA AATNCACNCC 840
 CCCAGNCCN NGAAAATNCC TTCCCCCCCN TGTGGGTTC ACCGCCNA 888

(2) INFORMATION FOR SEQ ID NO:509:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1359RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:509:

10	GATCCATGTT TATTCACCCC GCTCACTCGC GTAAACGATG CTTTACGTTG CTCACATCGC	60
	CGCCACCATT AACAGCGTAT CACATTTTAC GTTTCGGTGC AGCAAAAAGT CGGTGGGAAC	120
	ATAATGCTCC AATACCACGA TAGGTCCCGG CAAGCGCTTA ACACGTGCCA TCCTGCTCGC	180
15	CTCCCCACGG GCGGCTGGCG CTGTGCTGGA TGAAACTCCC CTCACGGTGA TGAGCGGACG	240
	GGCATTCGCC CTGCCATTAC TGCAGGCCCC ACGGACAGGT TTCCCATGTC AGCATCGACG	300
	GCAAACCCGC AGAAATCGAT AAGTAGCAGG ACACGGTCA GAAAGACCAG TGTGGTATCA	360
20	TGGGCGCAGA GGAGCTAGGC AACCTCGCTT TTCCGCAACC ATGCCCGGCG GCAGGTTGGA	420
	ACGGGGGAGC GCGTCACCAA GCGGGGATG CTAATGTCCC TTCCGGCCAA AGGCGGTCAC	480
	AGCTAAAGA GAGGCGCCCA CGAAGGCATA TAGCTGGCAG GAAACGATAC GATTACGGC	540
25	ACTCGCAGCG TAAGGAACAG GAGCATCACA TCGAACAGTC GCGTGIGGIN TCATCCCTG	600
	AAGGTNGACA CTAACCTGAA AAGCGGGCGT TGGCACTAAN TACAAACNIT ACCACAGTAG	660
	ATGCCNATA CTGCTGACAA ACGAACTGGG ATTINCTNACC GGTGCTGNGG ANANAAATCT	720
30	NCCAAGAACN TTNAACNCAA TTGGCCACTA CCGCTCTTGA TCGCTCTTNN ATCNACGGT	780
	TTGGGANCCG GNGNGCAAAG CCGTGATGNN ATCCCTGACN AANTTGGACT NNT	833

(2) INFORMATION FOR SEQ ID NO:510:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 871 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1359UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:510:

45	GATCGGTGTA GTACACGGTT TCCGGCGCGG CTTCTGGCAG AGCAGCTCCG ATCACCAGCG	60
	TACCCACAGAA CTCGCCGGGC GGTTCGCAAC ACTAGTGCCT GCTGCTGATG CCGGCTTCT	120
	AGTGGTTGCC TATTTTATTC CTGCGCGCA TGTTCGGCT GTACGGGGT ATCTCGATGT	180
50	GCGGAGCAG GAGGCTATC TTCCGCAGAC CGTTCTGTG CATCTGGTGG CACCAACGCA	240
	ACGCGGCAC GAGCTGGTG ATGGCTGGA CGCCCTGCC TGTGATTGG TTCTGGACT	300
55	ACCGTCTGTA CAATCGTCA TATACATGG CATCCCGAT GCGGCCACT TTGTTGGTCC	360

AGAAGAACTG CAGCGCACTG CTGCGGTCAAT CGCGCACAAAT CACGGGCCCA GTGGGCCCAA 420
 CTACGAGTAT CTGAAGCTGC TOCACAGGC GCTGCACTCA ATAGCCGAAA CGTTTGGCC 480
 5 CCGCTTGTGC GAGCTGGAGG ACCATTATCT GGAAGAGCTG CTCGAAGCGG TCGACCGTCT 540
 ACGGGCCCGAG GCGTGTGCGG CGGTAGGTGC CTGATCTTCT GCTAAACCCA CGCCGAAACA 600
 AAGATAGCAC CCGCGCTCC GGTAGCGGC CGCGGTCTGT GACCAGTTGC TAGCGTTTAC 660
 10 TTGCATACCC GATCTGCTT TAACCGTTTG GAAGGTTTAN CATCATTAGT TNNITTTGTC 720
 GCTTTGCTGC CCTGCTMTG GCAAGGGGON CCTATTTTAA NITACNCCC GNTTACGNC 780
 NCTGAACAA AAATGAATTC NITTINGANAN TCCCNATTT TNAGGATATC CCNGTTTGA 840
 15 ATTGANA AAA CTGATTGCGC NTTTTTMINI A 871

(2) INFORMATION FOR SEQ ID NO:511:

(i) SEQUENCE CHARACTERISTICS:

20 (A) LENGTH: 850 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

25 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1360RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:511:

30 GATCTTCTC CTCGCAATC ACAGAATATA TCTCGCGGT CATATCTTC GCGGTGAAA 60
 TAATGAACG TGAGTCCCGC GACCATGTGA GCGATGTGAT GTGGGOGAAA TGCCCCGCGT 120
 35 GGACCCGGTA GCGCACAAA GCGCAAACT GCGCTCAGC ACTGACCCCT GGAGTCCGCC 180
 AAATCTGAAG AAACCTCCCA CATGCCAGAG CAAAGAGCTT ACGTCTGTC GAAAACTTCA 240
 CGTGTGTTTAC TTGTGCTTA AAGTTGAAAT GATGTATCAC ATTCTCTGTC TTTATATTCA 300
 40 CAAGGATTGC CCGACCGTCC ACGTCAACG AAAGAAGCAG TGTACCCCTG GCATTGACGT 360
 CGATCTCTCG CTATATTCTT TCTATGCTCA TATTCAAAGG TAAAGACTT GTTACCAATC 420
 AGGTCAAACA CCGATACCTT GTTGCCAACG GCGAGAATA GCAGGTTTC ATTCTCGAA 480
 45 AACACACAT TTCCCTGTCT GTATACAGTG CCTAGCAGAT TGGAAAACIT GAAATCAGAC 540
 TTCATCGTAG TCCAATGCTT TGCTTGCTT GATCTTTTCA TGGTGTAGCT CATCTCATCT 600
 CGAATTAAAT TTTCGTACC ACCCAAAAA ACANATCTC CANCTGCATC TCAAGATTAT 660
 50 ATATATATGT TCGAAAATG AANATCCACT CNCTAAATG GTACACNGTC ATATGAATGT 720
 GTTINTTTGC TCCANTATCC CNACCATTAC CCACTCCAGA ATGGGAATAT ATGCCAGGAT 780
 NTCGGCACT TCACCTGTIT TTGACANATT TCTTGAGNTG CTGACAGCCG AGAAAAAGG 840
 55 TCAAGGTTAT 850

(2) INFORMATION FOR SEQ ID NO:512:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 851 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1360UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:512:

```

GATCGATGCA AACCAGGACA ACTACTTAGA AGAGTGCTTG AAAATTAAAA GTGTATTGAG      60
TGAATTTGAA AATGACGTAC CGGATAAGAC AGATATCAGA GGAGTTCTCA ATCCGGTTGC      120
AATTGTTGGT TCCCGTGAAC ATGTGTTCTC TGAAAAAACC GGTGTATTGG GAGATCTGGC      180
GGCTGGAAAG GAGCAAGTAT TCGGAACATT CTTTGCAAGT ACCCTTTGGT ATATTGGTGC      240
AAAGTTACAC TATGGCCATC CTGATTTTGT TAATGCTATA TTTGTCACTA CCAGAGGTGG      300
TGTATCGAAA GCTCAAAAGG GCTTACACTT AAGCGAAGAC CTTTTTGTGT GGATGAGTTC      360
CATATTACGT GGGGGTAGGA TTAAGCAATG CGAGTACACT CAATGCGGGA AAGGCGGTGA      420
TTTAGGATTT GGGTCCATTT TGAACCTGCG TACTAAGATT AGTGCGGGTA TGGGGGAGCA      480
AATACTCTCA AGGGAATACT TTTACTTTGT TTCAAATCTC CCACTCGACC GTTCTAGTT      540
TCTACTATGC ACATCCGGGA TACTACTTGA ATATGTTTCC AATATCCCTT CTAACCCCTT      600
AATTANGNAA TTTANTCCCG NATTAATGGC GGTCCTGGTC AANCCNACCA AAAATNNNNA      660
NATTCNTNTA ACCCCCCAAN CTGCAAAATT TATTGTTGCC ATINAACCCN TAACCAAGGT      720
NCCCCNTCNC GNTTNANANA TCCNNTCCCC NCCGGTNCCT TTCCAGTTT TGNAGAAAA      780
ATTTAAAAAC CNACNCCGGG TTNCCCCGAA AATGAAACTN NTANAAGNGC CCCCTTTCAA      840
ATTTTTTTTT C                                                                851

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(2) INFORMATION FOR SEQ ID NO:513:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 831 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1362RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:513:

5 GATCATAAGC TATTGGGTAC CCGTGTGTAGC CTAGCCTTAA AATAATCGAC ATTTTGGAAAT 60
 TTAGTTATTG CGTGGAAATA AGGTATATAT ATTGCTTCCA AGTTTAATGT CGCTTTTAAAC 120
 TCACTAAAAT ATGGATGTAA ATTGTCTCAA TTGGACTTTC ATGTTCTATC TATACACTAA 180
 CTCCGATGCG ACTCATTGTG CTTTCAGTATT CAAAACATGT TTTATATATG TAATATGCGG 240
 ACGTAGAAGG CAACTAAATA TGAGAGGCAA CTTAGTCGCT GTCGCTGTGG CTGTTTGAAT 300
 10 CGCTGGAATC TTTTTCATAC ATGATCTCGT CGCAATTATC TTCTTTTAGA ACGCTAAGTT 360
 CCAAGTCCTT ATGAGATTCC TTGTTCTCTT GAGAGACCTC GTCATCAAAG ATGATCTTGG 420
 TGTGTGAAAC GACAGGCAGG TTTTCTGCTT GCGACCTGTG ATAGCCTTCA CTTAGCAGTG 480
 15 ACCCCTCGAG GGACACCATT CTGCCCCGAG TGTAGACATT TTTAACAGTA AATTTGAGTT 540
 TTCCGTCCAG CTGCTTACCG TTGCGGTAC CCAGTGGCCT AGAGACCGGG CTTTGGCAT 600
 CCTGTGGAG AATCGTTTGG CTGCTCCCGT TGGTACTCTC TTGTTATGA ATAAAGTCCA 660
 20 ACCATCCGA ATGTTATTTT CTAATGAAGC GTTTGAACCT CGTGATCCAN CAACCATNTT 720
 GTTGAGGTGA CNNTTGAAAT CCNCCNCGA CNATCCCNAT TTNGNGACA NCCNCAATTT 780
 CCCNGCCCCN NITAAACCAG GNTATCTGNT CCANTGANTA CATCTCNCCT T 831
 25

(2) INFORMATION FOR SEQ ID NO:514:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 854 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1362UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:514:

40 GATCATAGCT GCAGGCTGCC AAGCAGACAT GCTGACATCA TACAGCCAAG AGAGCAGCTA 60
 CGCTGTCAAC GAGCTGGAAC AGAGGCTAAA CGAGTTTCGC ACTAAATGTA GAAAAAATGC 120
 AAGCCACTTT CAGGCACTAC TTTCAGTGGT AACTGAGATA GACCATCCCG ACAGCAGCCC 180
 45 GCTAAGTCAC CGTACAGTAG TCTTGACATA CATGGAATAT CGCTAAGGAA GGAGGTGTAA 240
 TAGGACACAA AATCATGAGA AGAGTATTGG CTTGTGCACG ATGCCGTGGG CACAAGATCA 300
 AATGCGTGCA CAACAACGAG CCACCTGCT CTTACTGCCA GCACAAAGGC ATAGCGGAGA 360
 50 AATGCGTGTT ATCATTTCCG CCCAAGAAGA GCGCAAGAA GCGGAACTA TACTTAGAAG 420
 GGGTTGGCAT GGCCTGGGC GGGTATCCGG TGCAGCAGTT GGAACTGCA GATCTGCACG 480
 AGCATAAAGC CAGAGCGGAC GGCTCTGATG AAAGCCAAGC TCCTGTGCAT GGCAGGACT 540
 55 ATACGATCGG GAGCAAGCTG CGCAGATGTA CGAGCTGGCC AGCAGATGTA CTACGGCTGC 600

CCAGGCGTAC TCGACGGTGA TGTCGAGTAG TCGGAAGGTT CCCAGGCGGG TTGATTCTOC 660
 CGCCAATTGC CACCCGGATT CTAAACCGAA ANAATGCAAC NCATGGAACC NGCCNTACTT 720
 5 TMTGGACTG TCCCCAGTGC CCNATGCAIN GTGCACTTGC AINGAGANNI TGTATCCTT 780
 CCCCAGTGG NTGTTTANAT GANACNCCC AAGAATACCC CCTGACCGTC TTGGGTTCIT 840
 TTTGCCCCCC NCCT 854

(2) INFORMATION FOR SEQ ID NO:515:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 853 base pairs
 (B) TYPE: nucleic acid
 15 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1363RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:515:

25 GATCATTATC AGCATTAAATC TTCAACTCGG CATTGCTCT TAAACCAATA ACAAACCGG 60
 CAGATTTGCC TCCAATTGGG TAAGGATCCT TTAACCCCTT GAGGATACT TCAAAAAGCC 120
 CTTCAGTAGG CCAGCGAATA TTAATCTTGG CATGGAACAT ATTCTTAATT TTATCCAGA 180
 30 AGCCTATTTT CTGGGATGGA TCAACTGGAG GTTTCGAAA ATTGTCTAAA CAATTCATGG 240
 CCTGTGTGAT AGCAGCTTCA TAAGAGCCAC CCCATGTCAC CATCGTGATG TCTTTGAGT 300
 GTATATCCAT TGTACCTGA CTGTAAATTT TAATAGGCGT TAAAGACCGG CGGAAGCGCA 360
 35 ACGAATAATA TAGGTCTATC TCAGAAGAAG TAACGGAAGG AACAAGCGGC ACAAATATCG 420
 TGTGTAGCTC CTGGGTGAT TGAATCATAT CCTCCAGTAA TAAAGAGGTC ACCATACAAA 480
 TGTATAGCCG GAAAAGAACC TTGTTGGGAA GGCATAGCTT CGGCATATGG ACTAAGGTA 540
 40 GTNGGGTTAA CCTTNAANA GCCCCCTTAA TTCACCCANC TTGGCTTCCA ATNTAAAAG 600
 GAAGCCNCCA NTAATCTTGG GTTANTTTTG GAACCCCMIT TNCNCAAN TTTAATNAAT 660
 TCNCNNTTTT ACCCTTCCCA CATNANGGCT TAAANINCA TGTTTTACCC CCCNGCCAA 720
 45 GANNTCNCC ATTTTGGAAA TGTANANTC CANACCCCT TNCATNITN NAGGANTTC 780
 AACTGTCCNT TINCCCCAAA AANTTAATCC CCNAAAAAT TCTTTCTCC TGGGNTTTT 840
 CCCCCCTTAC CNT 853

(2) INFORMATION FOR SEQ ID NO:516:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 858 base pairs
 (B) TYPE: nucleic acid
 55 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1363UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:516:

10	GATCGAGGAT ATTTCCGTAC GCTGGATGTC GCTCGATGTC AAGTACATGG GTGATGGGTT	60
	GGCCTTTTCA GTGTGCTTC AAAATATCAA GCACAATAAG GTCTGTCTGC TGAAGTCTGG	120
	TGGCTOGAG GTTCTGGCT GTTTCACAAA AGACAGTCCC TTGGACTAA CATGTGTTGA	180
15	ACTGAGTGTG AAGTTCTTC AACTCACAGT GCTGTGAGT AACCTACTAG CACTATTTAC	240
	CTTGGGCAAA GAAGAAGATG AGGAGCTGA AGGCTTTGCT CGTAATATTT TOGATGGCAT	300
	GACCGAAGAT CCACAACGTA ATGCACAGAA TTGTGTGGAG ATGATGAGAT CAAGAGTTAC	360
20	CAGGTGTCAT AGCTACTTTT CCCATCTAAC TAAGGTGAT TTTTTGTGTG ATAAGGTAA	420
	CCTGGCAGAT ATACCACCCA GCTTATTGCC TGAGTTGTCA TCTGCTGTG AGCCTTTGAA	480
	ATACGAAGTT GCGCTTTCTA GTTTACTTTT TCAAGTCACC CGTTTTAGCA CCGAACAGC	540
25	CAGGTATAGT ATCCTTTTCA AAAGTCTGAT AGACGTAGG GTCGGTATCA CATTGTGATC	600
	GTTCAGTGC GCTCTCAGTT AATGCCCCTA AAATCCCCCT GAAAAGGCTC CTGAATACAT	660
	CCGGTTTTTG AAGTTCCAN TTATATCCAT ATGGTGANAC TATACTTTTC CTGAAAATTT	720
30	GACTGGTCCA CGCTGTTTCT GANACAAAGT CAATGGTGG CAGTTTCTCC CCTACCNAA	780
	NATTGAAATG AAACCCCAN CTGGAACCC GTTNGCAATA CTGTANGACT ATTNTTCCN	840
	CANACCCCN CCACGNAN	858

(2) INFORMATION FOR SEQ ID NO:517:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 842 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1364RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:517:

50	GATCAGATCG ACGTACGTT CGTGGCTG GGCACACTA CGGACAAGGA CTGGCTGAG	60
	GTCTGTCTT TCAGCGGTA CAACAAGATC CAGGTATAAC CGCTCCGTC GCGCAGCGAG	120
	CTGGCAGCC GCTTCATGC TGCAACTGAG AATGCCCTG ACCTGATGTG CGGTATGCTG	180
	ACGATGGACC CGCACAAAG GTGGGACAG ACTGGTGGC TGCTCAGTCA GTATTTTGTA	240
55	GAGCTTCCG AGCGACACC TCCTACGAA CTTCAAAAC TAAATAAGTA ATGACTATGA	300

TAACCTAGAT GGTATACTCG GACGTTTTGT GTTTGTGCTT TGAGGCGATG ACATTGGCTT 360
 TTATGGTATC GCAGACGTTG CCTGAAAAAG ATTCAACGTC TCGTAACAG ATTTGGGCAG 420
 5 ACTACTTGTT GAAAGAACAA AGACCAGAGC GCTGGGATGC TCACCCCAAT GACGAACCA 480
 CTCGGCTTA TTGGGCTCG CTCAGGTC CTTAGCACCA ACAATAGGCC GCGACTGCAC 540
 AAGATCTTTC CCTCAAGAA GCTGGTGAAC AGGATGCTGT TCGACCTTG ATAGCCGACT 600
 10 GACCTTCCGG AAATTACTTG CCTGTATAC GAGCAGTTGT ACACCCAATT AGACAGTTAT 660
 TACGGCAAT TTGTATACC CCGGCTTG ANGGCCGA CTTTATATCC TGAAGAGNTG 720
 CTNGAAAAA TCCCCGNAA NGAAAANNCC ATGCCATCT ANTTGCTNG AAACAACTGC 780
 15 TTTACTGCTG CCAATNGAN ACCAAAATON CGGCGTACC TTGACCTNT CACCCGCTNC 840
 CT 842

(2) INFORMATION FOR SEQ ID NO:518:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 869 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1364UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:518:

GATCTAGTGC TTCACAAGCT AGAAGCTCCA ACCATGAAAG AGGATGAT CCTGAGAACA 60
 35 CTTTTCTGT GGAGGCTTAT CAATGCTCTT TCTATCCGA GCTTCTTCCA GGCAGATGAA 120
 TACTGGCAGT CGCTGGAGCC TGGCATGTT AAGGCGTTTG GATATGGTGG GCTGACTTGG 180
 GAGTGGCAGC ATGGGCTCG CAGCTATGCA TTCCCGATGC TCTTTGAAAT GTGTACTAT 240
 40 GTGGCGTGA TACTGGTGT GCCACCCGG ATGGCGCTGC AGGGGTGGC ACATGCGAGC 300
 GCGCTGTGT GGGCGTGT GCGAGCGGC GGGCGGGCG TGGCGGAT GAAGCCGTC 360
 TGGAGCTGC CGAGGCAGC GCAGGAAGTG GTGGAGTACT AGGGGTATT GTACGGGCGC 420
 45 CGAGTGGTGA TGGCGCGGT AGCAGGTGC GGGAGTTCT ACAGGTGCT GCTGGTGOOC 480
 AAGCTGTATC TCGAGTGC GATAAGGGG GACGACCCAG AAGGGGACG CGGCGCGGT 540
 CAGCGGTTG GCGCTGAATG CTGACCATGA CAACTTCTT CAACTGTTTC TTGCGAAGC 600
 50 CAAGTTCAT CACTCTNCA AAATAACCC CACNCGNTC CCTCTAACC NATTTGGATT 660
 GGANCCGGG CCCANCTTG GTTCTNTGG GCTTCCACN CAACTTTNGC GSTGGCTGN 720
 TTTGCTGCC CTGCAGGCC NATACTTTTT ATCTTGGCT CCTGCTGT TCTTGTGCA 780
 55 ACCTGTGCC CACCAAGGT GCACTONNT ANCTGTGCC TAGGTGCCC CGNCCCCCG 840

GGGTITTTTCN ATACCANINA NACNCTOCT

869

(2) INFORMATION FOR SEQ ID NO:519:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 839 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1365RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:519:

GATCTGCGGC CGCGGAAGA CGCAGAGGAA AGCGAATCGA GCGCGGGAGA GCGCTACTCG	60
ACCGACAAAA GCAGTTACGC GTCCTCGGTG CAGGCGGTGC TCAGAGGAG GACAGCGTCG	120
GCAGCCAGCG CAGATACAGC AATGAGCAGT TCAACGGCAG CCAGCGATAG CGCGGGCGGC	180
GCTAAGATGG ATGCAGCGA CGCAGATGAC GCGACGGCCA GCTTGGAGCT GCGGCTTGCA	240
GCGCTGCGCA CGCAGGACCC GCGTGTGGAC AGCGCAGACA CGCGGAGGG CGCGTCGCGG	300
GCGTGCCTCG CGCGCGCGCC CAGCCCGCGG CCCANCGGG CGACGGAGGG GTCGGACGAG	360
GCGGCGCGGC CGCTGGAGGT GCGCAAGCAG CGCGGCGAG CGGGCACGGC GCGCGGCGGC	420
GAGCGCGTGC GCGCGCGGCC CACCAACCCC TTCGCGTGA TTTCGGTGG CGGCTCCAGC	480
ACGTTCAGC GCGCGGCGGG CGCGGACGGG CAGGCGTGG GCACGTGGTC CGCGGGCGAC	540
AAGGCGCGAC CGGTGTCCGC GAACGAGCAG AGCATGCTCA AGTTGCCCGG CAGCNCANC	600
TACCTGACC ATGAATTCT CACTGTGTC AAGANATTAA TTTCCTGANA ACNTGAANAA	660
ANCGTCCCT GTNCTGAAG AANCCCCNN ANTAACNACC CCTNGACAG CTNGATTTC	720
CTCNCCTTA TTNTAAAAA TTTCAAATNC GGTGGTNC TCCCCNCTN CCAACNTTT	780
TAAAANGTTC CCACGGGNTN NIGNNCCNN NATTTGGCCC CCGTTCNT TNCNGGT	839

(2) INFORMATION FOR SEQ ID NO:520:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 851 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1365UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:520:

5
 10
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 25

GATCAAGTGA CGTTCATGGA GCGTCAGCA CTGCAGACA GCGAAGCGT GGTGGGCGG 60
 ACGCGGCGG CGGCGGTGCA GCTGTATGTG GGGCCCGGG GCGGGCTGG GGGGCGCTG 120
 GCGGAGGCGC TGGACGAGTT GCTGGGCGGA CCTTTAGCG CGAGCCCACT GCGGCGGCG 180
 TGGGATGTGT ACTTTATGCA GCTGGGCGG CTCGGGGCT CCGTTCCAA CTGCATGAAG 240
 CCGGTGTGCG GGTGGGTGAT TGTGGCGGCC TGCGCGTCA TTGCCACCG GTATAATGG 300
 ACGCGGCGC ACTTGGCAA TTGCCAGAC GGGGGTGG CGGCTGCAA CCGGGGCGC 360
 AGTGGCTGC ACACCTGTCT CTGCTTACAC GGGAGGAGA ATGCGTTACT GGAGCGCGG 420
 CCGGAGCGCG TGGGGAGGG CGGGTGCTG TACTGCGACA CCTGTCCGTG TTTGACATGT 480
 TCGGTGAAGA TCGTTCAGAC GGGGATCAG GAGGTGTTT ACTGCGAGAC CTACCGGATG 540
 GACAGGACA GCTTCAAGGT ACTGCGGGG GGGGCGTCA GGTCCCGCA GCTACAGGAC 600
 GCGTCCCCC GCACTTTTTA TTATATNNGC NGGNGCTTT CCNGCAACN GCTAAACTTG 660
 CTGTTTTTNC ATATAAGGNC CCGCGGTNC CGACTNCAA GNAATNCCNC AACCTTCTT 720
 TMTTCCGAG GCNGGGGAAT TTTCGCCGA TTNNNGGCC CCCCCGTNN TGCGTTACC 780
 CANTTCCCT GCCCAATCCT CCGCGGAAN CCNCCNCAA CCGTCTCGNN TTCTCCACC 840
 CGNCTGNCC T 851

(2) INFORMATION FOR SEQ ID NO:521:

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(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 823 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1366RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:521:

45
 50
 55

GATCCAACGG TCAACCAATG CCTCCGAGAT TGCCGGCATA GCGATGAGA TTGCCAAAGC 60
 GGAGAAGCAG GACAGCTCG CGGCGGTGTC TGCCATGGGT GCGTCTTAG GGCATGCAGC 120
 GAGTCTTTC GGTGCTTTGA ACGTGCTTAA CAGTCTGTC GAGCTCTTGA ACCAGCCGGG 180
 AGCAAAGCCT GCTGCCGGTG CTCTCAAGGG CATGATGGAG GCTGGGTCTA ACACGACTAA 240
 GGCAATTGAC TTCATCATGG AGGTGCAAG TCATCCAAAG GCTGGCGCGG CAGAGCAGGT 300
 GATGGGTCTA GATATGGTAC TCCAGAATGC CGTGAAGTCA AGCGAAACT TTGCAATAT 360
 CATAAAAATG CAGATGGCAT CGACCGAGGA GTCGAGAGG GCCTCCCAA GTTGTGTTGG 420
 CTTGTGTGCG TACTCGACTG ACAAGATCGA GAGCATGAA TCGTGATTA AGCTGATAGA 480
 GTTCGGTGAA AAGAGCCCTG ATGTATTGAA TCCTGTCTTA GAAGTGCTGC AAGCTTCGT 540

GAAGGTCAAC AGATTGATAC CCTCCGAAAG AATTTTNGAC TTACACCCAC ATCCTGGAAA 600
 CTTCATNTTT GCTGCGAGTT ACAAACTGGC ATTTCCCAAT CTGCCATTIG TTCCCTTAAC 660
 5 GGNCCCCAAA GGTITGCACA CONCNVTOCT NCAGGNITCA ATNOCTACTC CTNNNNCCNA 720
 CCNANGAATC CNVITGGGCC TTNTTTAANN CAAATCNGNC CANATNTACC CCCAGGTTTT 780
 10 TTTTGGAAAN CCTTTTANA CCTTTCCCCC CCTCCCTTIN NAT 823

(2) INFORMATION FOR SEQ ID NO:522:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 854 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1366UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:522:

GAATCTATCA GGATAAATGA TTGCTCCCG GAAAGTCGAT AAATTGCTCA TATATGCOCT 60
 CTGGGGGAGA TAATATATCG GACTTTGCGC ATTTTCAGCA TTCTACCGG GCATGATTAG 120
 CTTCGTAGGC TTCTTAGGGT TAGTAAACGA TTGCAAAACA GGCCACAACC CCCAAGGAC 180
 30 CCTGAAAAGA GAAGACTTGC CCGAGCCATT AGGACCTATA ATCAATAGAT GGTACCATG 240
 CTTCAACTCG AAGTTAAGTT CCGGGATAAG GACTTGATTA GCAGGTGICA CTAGTGGAAC 300
 ATGAACGAAT TGAATCTTAG AATCGTCGTA TTCTATAATG ACCTTTTTC CATCAGTCTT 360
 35 CGAAGTACTT CCAGCGTCTA GCTGTGCTTT GAAATTTGTT AACCGTAGGG CCTCTCCCTT 420
 TAGCTGCTGG ATACTACGGC GCAGTTGAC ATAGCGGCCA ATAGATGCGG ACCCAGTTAG 480
 CAGTAAACGT CTGTTGGTGA TAAATCAGC GGTGACATCC TCAGCCATAT TAGAAGGAAA 540
 40 GAAGACGGGG ATAGAGCATA ATATCAAGCC CAGCAGGCC CCAGACGTAC TTCACCACAA 600
 AGCTAGTACA ATTCGTACAG TGCTCTTAAA TTTATCTCCC CCGGCTNAGA ATAAGTTACT 660
 GGTANAAAN AAAAACCCAA TCCATATTC GGTNTTIGAC CNTGAATAAA CNNTNCCN 720
 45 TTGCTTGACC NCACTTGAAT TTATGACGA ATTACCNCA TTTTCCOCTG ACATACCGTT 780
 CAATTGGNG TTTGACCTCC CACTNATTAT GATTNAAATC AACCCATCCN GTCTTNGC 840
 50 TTTCCCTGGN GATC 854

(2) INFORMATION FOR SEQ ID NO:523:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 824 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1367RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:523:

5	GGATCGGCC	CCGTTCGCC	CGTGTGGCC	CGTGCCGCC	GCCAGGGCT	GCGCGCGG	60
10	CAGGCCACC	GCGCTCCG	CGTGTGGC	TAGCGGATTG	TTCATTCCCT	GTGTGCTC	120
	CTGACTGTCC	ACTGACCTC	TTGTATCCG	ACCTTTCTGC	CAAGTGGGC	CCAAACTCTG	180
15	TTTCTCTGTC	TGTCCAGAGT	TTCGCTCTCT	GGCTGGGCTA	CTGCTACCT	GCGTTTGGT	240
	ATGGAGGAGA	AGTGTGTGTG	TATCTGATTT	GTTTATCTGC	TTTCTTCTC	CTATAAGCTT	300
	TTTGTAAATG	AAAAAATTAT	GAAAAAGGGA	AATCTGTGGA	ATTTGGAAT	GCTGCTGGG	360
20	CTGGTGTGTT	CAACTTCCAG	CGCGCGCTC	TGTTCTACT	GCTCTGTTCT	TGGTCTAGCT	420
	TTCGGTATTT	TTTCTGCTCG	GTTTGGCTTC	TTTTTTCTGC	AACGCAAGGG	CGGCTGGT	480
	GCTGAGGTG	CCAGGTGGCT	GCACAAGTGC	GGGCGCCCG	GAACCGAGCC	GGTAGTTAC	540
25	CGGCAACTC	TGCGCCGAT	CCCTTGGGA	GGCTTACGGC	AGGCTTATT	TAATTGTAC	600
	GTAAGTCACG	TGGAGCTAGC	ACGTGCTTGG	CAGCTCAGCC	GCACGTCACG	TAGCGTGIGA	660
	CTAATCGCGG	CGACCTGGTG	GGTTAAANGA	CGGGTTACNC	CGTTAAGTTG	GAAAGCNC	720
30	AATAAATTAC	NTACCCNTTA	AACACACGGG	ANAAAAANAN	NCCCGGNC	NAAGNANTTT	780
	TTGCCCTTGA	AGCCCGGTGC	CCCAAGCCCG	GNCNCCCA	GAAN		824

(2) INFORMATION FOR SEQ ID NO:524:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 850 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1367UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:524:

45	GATCTTATGG	GTGGTTCTCT	AGGGCTGAAA	GGCGGATATG	GACAGTCGAA	ATGGGCAGCA	60
	GAATTTATTA	TAAAACGTGC	AGTGAGCGT	GGGTTACCGG	GTTGTATAAT	GAGGCCAGGC	120
50	TATGTGACTG	GTTCCCTTTC	TACAGGAGCT	TCTAACGCGG	ATGACTTTCT	GCTCCGGTTC	180
	CTACGGGGAT	GTGTTAGTT	AGGCAAAATT	CCTGATATTG	AAGGAAGTGT	TAATATGGTA	240
	CCAGTTGATT	ATGTGGCAGG	GTTAGCAACA	GCGGCTTCTT	TCTGTCTATC	AGGCAATACA	300
55	CATATGATGG	TTGTAAATGT	CAATGCGAAA	CCAAGAATAT	CAFTCAGGGA	CTATCTACTA	360

GCACTGAAGG AATACGGGTA CCAGGTAACA TCAGTTCTTT ATGACGAGTG GAGTAAGGCG 420
 CTTGAATCGT CGAGTGATGA AGAAAATCCT TTGTATCCGC TATTGTACCT TGTCCTAGAT 480
 5 GACTTGCCTA AAAACTGCCG AGTCTGAAC TCGATACTAC TAATGCGAAA TTGTTTITAG 540
 AAGAAGATTT TCGCGGGACG AATATTGAGC CAATTATCAT TACTTCGGTG TCATTAGAGT 600
 TGTGGGTCCT CATATCTCAT TTTTGCAATA TTTAGCTCCC NANAANAACC ACCTAAAGTT 660
 10 CCCAGCCCCC GGCNATATTC NCTCTCCCGA CGAACAAATT CCTTAATANC NCATACCNCT 720
 GCNCCGAACA TACANCAACC CNTAAATACC NCAAAATGTN GACAACATGA NIGTTTATTT 780
 TTTTATATTT ACAACCTATT ATTAACCAA TTINATCAC GATCNCTINT GACGCCCTCT 840
 15 CTGACAAATT 850

(2) INFORMATION FOR SEQ ID NO:525:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 825 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1368RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:525:

GATCATCTGA AGTAATATAG AATCTGCATG GCGCAAACC GTTCGGTCC AATGTAGCG 60
 CGGTGTAGCG GCCATCGGTA AAGGTGAGCA ACGCAGGGC ATCCCATGGT TCCATCAAAC 120
 35 AGCGGGCCCA GTCAAACCAA GCCTTCAGGT TAGAATCCAT GTCCTTGTTG TAGGCTTCTG 180
 GAACCATCAA GCACATGGCT TCGGGTAATG ACAGAACACC ATTTATCACT AGTAATTCTA 240
 GCACATTGTC CAGCGGGCA GAGTCGGATC CGCTTCTTC GATAATCGGA TAAAGCTTCT 300
 40 CCAGTTGGTC TTGGAAAACG GCGGATGCCA TGACACCTTC CTTCGCACGC ATCCAGTTTT 360
 TGTGCTCTT TAGGGTATTA ATTTACCGT TGTGTGCAAG CCAGGCGAGA GGCTGGGCAC 420
 GGTCCAAGA TGGGAATGTA TTGGTTGAG AAAAGAGAGT GTACCAAGGC CAGGTGAGAC 480
 45 TTGAAATGAG CATTTGTCAA GTCTGTGTAA TAATTATACA CTTGGCAGG TCAATTGACC 540
 TTTGTACACA ATTGTCCGGT TATTTAGGAG CACACAGTA ACAGTTCTGA TACCGATGGC 600
 CGTTAAACC NNCTTTCTTT AAATNTAAA CTGGCATCCN GAAGTCTCTC GTNATTANCC 660
 50 TGAATCTNCN CCCGATACTC CTGCCATAT TTCTTTNCN CAACAACGTT TTTGAAATGG 720
 TTTCCCAAAA CCAAGGAACC NAAAGAAATN CTNTGGACNC CTCCAACCN AACCCNNATT 780
 TAACAATCGG TACTNGCCAA TTINTTCAAG CNNAACCTGT NNCT 825

(2) INFORMATION FOR SEQ ID NO:526:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 839 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1368UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:526:

GATCGTGACG ACTTTGTGTT TTA CTCTCAAC CGTATTGCAA CGATCTTGGT TTGCGGGGCT 60
 TTGGATGACA TTGCTATCGT GCGGGATGAA CTGCCATTGG TGACTGCATC CGGATATCAA 120
 CTGGAGAAGC CTGTTTCATGT GAAATTTTGAC AAGATTACCG CTGIGAATAT TGTGGGCTCT 180
 GCGGACTGTT TCATGGCTTC CCTACGCAAA ACAGTGCCAA ATATATCCAT CGGTAAATTG 240
 CTCATTCACT CTGACTCTCA AACAGGTGAG CCGCAGTTAC ATTGOGAGTT CTTACCAGTG 300
 AACATTGGCG GCTCTTTTGA CCAGGTCTTA TTGATGGATG CACAAATAAT CTCAGGCGCA 360
 GCAATTATCA TGGCTATTCA AGTGCTAGTT GACCATGGTG TTGAACTATC AAAAATAAAG 420
 GTTATTGTCT ACTTAGCCAC TGAAATTGGA ATAAGAAGGA TAATAAATGC CTTTAAACAAC 480
 AAAGTATCAT ATATGCGGGC GAAATTATAT CAGACGAAAG TATGACAGAT GGCCAATGTA 540
 CTGGGCGAGG GTGAGATTCA TCGACTCAAG ATACTTTGGC TGTGACTGAT TCAGAGCTTT 600
 TGCTGCCCAN GCAGGAATTA ANAACTTTTG GTGCTATTGC ATGTTACAAT ATTAGCATTT 660
 ATCATCCATA CCATAGCTGC TTTACNATAG CATNLAATTT TACTATCTTT NAACCCACCC 720
 AGACTATTTT TCCCCCNCTA CTTTACNAAN ANTTTAANCA ACTGACCCCC CGNTATAATT 780
 GCCCATCCAA CACCCCCCNC CTCNLAANAA ANACCNACTT GGAAOGAGTG GGAACCNCC 839

(2) INFORMATION FOR SEQ ID NO:527:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 851 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1369RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:527:

GATCGCCTAC TTGTTCTCAGG AACTTGTAT CATGAGAGAT GATATGTGCA ACAGGTTTAA 60
 GGCCAATAGC ATTATTTTCC CAACAGTGA AGAGGAACAG AAACAGGAAT ACATGCTGTT 120

ACAGCAGGAG CTCAGGATG ATGAACGTAG TTGGATCTC TCATTAGTC AACTGATTAA 180
 GTCCAGGAC CAATTGCTG CCAGTGTCCA GGAGTCCAGG AAGATAGTCA AAACCATCTT 240
 5 CGATCAGCAA CACCTTTGCG CTTTACCTC GCAGGTGCGC CCTATAACGT GGGACTATGA 300
 CTACACGTG CACCTGTCCC CAATACCTC CACTATGATC ATTTGCGACC CAACTGCACC 360
 GAAATATGAT GTTACTTACA ACGGCTGCAA GAGTATCAAT CCAGGCTCAT TTCTCCACAA 420
 10 GCGGAGGTC AACTATACTG AGTACACTCC TTGGTTACGG AAAGCAACAG AGGAAGAAAT 480
 TGTCGTGTAG GACTTTAAAC TTACATATAA TGTCAAATAT AAAGGTTTCA GACGTGTCA 540
 TGTTTGTAT GGATATTTCT TGAACTTTC CCGTAATATC GTATGGCATA CAGTAGAGGG 600
 15 GGTCAATNGG AACAAACCGN CGTGCTTCTT CAACTGGNC CCCANCAAT CCCAAAAAT 660
 TGTGAAAAC TTCCACCTAG ATTTTCTGGC CATCGCGAT GCGCNCCT CTTTGATTCC 720
 TNCANCCCCA GANNAATCNC CCGTTTCTT GNTCATCCAT NCGNITNGC CCAATTCNA 780
 20 NCGTTAAANG CCCCCCCCNC TTTTCAACTT TNGGATTTIN NINGTTTCGG TCGGNNCCC 840
 CCGTNCAGAC C 851

(2) INFORMATION FOR SEQ ID NO:528:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 858 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1369UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:528:

GATCAAGACG AAGCAGAAGA AGAAGGGTA CGCATGTACG TGCCACCTGG TCGGTGGA 60
 40 GCGGGCCAAG GCGATCGCTC TGGAGCGGA CACGGGCTG GGGCTGGTAA TATCGGTGA 120
 CCGGACGGTG GACACACGGG CGCGCACAT ACAGAGCATT CTGGCGCAGC AGCAGAGGAA 180
 GTACGGGCGC ACGGTGCCAA CCATCCGTGT GCGGTGATT AATTGATCG AACATTGCGA 240
 45 GTTGTTTTTC GGCAAAACGC TCGACCGGAA CACACGGGAC TACCTGGTAA ACGTGAGCGC 300
 TGCAATGGTG GTGTGCGCG ATGTGGTGGG GACCTGCGC CCGACCTGA GGCAATATA 360
 TTGCAAAAC CTGAGGTACC TGATAGACTG GTTGATACC CCGAGAGGC CATGGCCGTT 420
 50 GCGGACTTC TATCCGGTGA AGTATACAC TGCAATGGAC GTGAGCGCT CGCTGCTGAC 480
 CGAGGTGAAA TACTCCCCAG AATAATGACT CCGTTGGAGG ATCGGTTTTA CCAACGGCAA 540
 GAAACTTACC ATAGTTCCNT GGACAAAGGA ACGGTGGAAA TCGCGCGATC TCCTACTAC 600
 55 CCAATAAGC GTTTTGAAAA ATGACTACAT TNGAATCCN CCAACAAAA TTGAACACTC 660

CCCGGAANNA NCATACNAAN CCAAAAGTTT GCTAAATATC TCTTTCNNIN GTACACTGAC 720
 CCNACTINTT GCAGGGAAAG GNCCTGTTTTT AAACCTCCAC TONGACTTNA TTTTACCCCT 780
 5 CCNGCATOC ACCNAANCAA CACCTINTCN AACCATAGAA CNNTTTTCCT TTTAAAACAC 840
 TNAGAAGCAT TTNAAAAT 858

(2) INFORMATION FOR SEQ ID NO:529:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 834 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1370RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:529:

GATCTTGTAAC AACTGAGCCT AGGTCCTGTT GTTGAACGGT AACCTCCACA TTCATTATTG 60
 25 GCTCCAATAT GGAGAAGCC GAAGTTGGTA AACTGTCAG TGCTGATATG ATTAAAGGAC 120
 GCACAGTCAG CAGAATGGAT GCAGCTGCTG CGCAGTCTAG CGGTAGCCGC CAGCGTTTAA 180
 CATGAATCAC ACACGAGTGT AGAGGAAAGC CTGCGGTTTT ACCAOCCTCTT TGCAAAGCCA 240
 30 CTATGCAACA CGAGATGATA GAGTTCAAGA ATGCCCTCATA TTTCAATGGA AATGGCCAAT 300
 TGTCCTCGTT AAAGCGTGGG TTGGATCTA TGACAAGATA GTTATTATCG CTTCCCAAGG 360
 GGTACCATCC GTTACTGAAT AGTACTTTAT CTTCTTCATT GTATTGCCGA ACTTCGAGTT 420
 35 CGAACAATA TCCATCATCT GTTTCAGAGT GCTTCCTCTC TGTAGCAGTA TTAATGGTTT 480
 CCTTGTAATGA AACTGCTACC TTGCTACTC TTACAGGCGC CTTAAATTCA TTGAGCAGCC 540
 GTCCGCTGCT ATTTCAGTG CATTCOOOOC ATCCCATTC TCACTGTCTG ACCAGTCTCC 600
 TCATCOOCTCA CNAATAACCAC NACGGTTOOC CNETCGTTAG CTGNNCANG ATCACCNNAT 660
 40 ANCTTTTNT TCCCAANIT CCOCGGTCN NCANCGNOCT AAAANGGTGG NGGTANTCAT 720
 GGTNTTTCC CANTIGNANT TNGCTTTTG AAAACAATC CCGTTTAAGN TTNAAAGNCA 780
 45 AANGGTTCC CTTCTAANIG TGTCOOCTTG GCOOCCNCC COCAATNOOG AGAT 834

(2) INFORMATION FOR SEQ ID NO:530:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 840 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1370UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:530:

5 GATCGCAGAG GAGGAGCCCA TTCGACGCT TGCATGGAAG GAGGACACCT TTGAGAATTT 60
 TCTGGGGGAG GTGACATCCG ATGAGGGGCG CGAGACGCTG GTTTCGAGG AGGATGCGCG 120
 CACCTACCTG GCCAAGCTTT TATGACGGCT GTCGCTGCTT TTAAATTGTT ACATACTGTA 180
 CATAATCGCT TTAGTCGTAC CACATTTTGA TCAGCTCTTC GGAAACCGCG CTGGGGGTCA 240
 10 GCACGCCAG GTCTGTGATC AGCGCGGTAA TGTGCTCGTG CGAGGTGTAG TCGATGGACG 300
 GGCTTAGCAG CTGCTCTGAC TGTGCGCTGC GCGAGAAGTC CAGCGGGTCA CGCTCCATGG 360
 GCAAGTCGTC GGGGGAAAGC GGGAAATCC TTACAAACTT GTGCGATTG CTTACCAAGT 420
 15 AGAATGGCTT GCGTGGCTTC TTGGGAGGA CCCCTACCGT GTACGTCCCC ACAGATTTA 480
 TGATGCGGCC GGACTCGGCC ACGCCCTCCG CGCCAACCAG CACTTGTGGA TTTTGTGTAT 540
 GATGGACCCA CCGCGCTGTC CACGATCATC GTCACCGGAT GCGCTTTGCT TGCAGCAGGT 600
 20 CATAAGCTG CTTGCCCTGC CCGAAGGCC CGTGCTCGGT CAAGANACAC CGGAAGCAAT 660
 CACTCTCACC TGTTACTCAC ACGAAANCG CCGCAAACC AGTTCCCAA AAGTCTCCTC 720
 TGTATGATCC NCCCATCTTT GTNCTTTTIN TNGACGCTTG CCGAANCAA AACGTCCNTT 780
 25 CCGNGTTGC TGCTGNACCC CCTCCCAN TMTTTTTC CCCCCNCCC NATTTCTCT 840

(2) INFORMATION FOR SEQ ID NO:531:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 835 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 35 (ii) MOLECULE TYPE: DNA (genomic)
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1371RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:531:
 GATGAGAAC AACTACGACA ACAGCCAGC AGACGGGCG GAAGCGCTCA AGCCGAGCTA 60

45 TATTTTGTAG TACCTTGCTT CGCTCATGTA CCAGCGCGCG TCAAAGCTGA ACCCGCTCTG 120
 GAACGCCATC ATGTCGCGG GGTGCGAGGA CGGCCAGGC TTCTGCGTT ATGTGGACCT 180
 CAAGGGGCTC AAGTACTCG CCCCAAGCTT GCTACTGCG TTTGGCGGCC ATATGGCCAT 240
 50 TCCTCTCATG CGTAAAGTC CAGATGCCGA AAAAGACGTC GCGGGGCTCG ACCTCTCAAT 300
 TCGCGAGCG ACTATCTCG AGTCCATGAA GGTGTTATTC TACCGGATG CGGTAGTTC 360
 CCGTGGCTTC TGCTTGCCA TCATCGACAA TGATGCCGT GTCAGCATG AGCAACTGGA 420

55

AGTGGAAAAC ATGACCTGGG GGTTCGCCAA GGATATTGGG GGCTATGGCA CCCAGAATGT 480
 CTGAGTACCG GCGGCGAAGC GCGGCACCTG TATACTATCT TGTCGGGGCT CCTCGCCAAC 540
 5 CGCTGGCTAC TCACATACAT ATCAAGATGC ATAATCAATC TGCTCATGAA CGCACCTCTG 600
 TTTTGTGGAT ACTCTTCTCG CCGGTATCCT GAGTACGCTG GAGTGCAAAA AGAGCCACTT 660
 TGAAACAACA CGAGTCGCAG CTAAGGNGAN ATCCGANTAA NCAACNCACA CTTCAATTGA 720
 10 CTTATGAAAT GCGCAAGGTT GATTGAACTG ACGTCCTTGG AACNNTOGGN CGTGGAAACG 780
 CCTCTTCAN TTGAACCAAA GTCCACAANN AGGTATTTNT TTNAACCGTT CCGCC 835

(2) INFORMATION FOR SEQ ID NO:532:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 850 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1371UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:532:

GATCCATTGT GGGTTTGGAG GTACAGCCAC GGAAGTGGAC ATGTAAGTGA TGAGCTTGA 60
 30 CCGGCAGCTC TTCATTGGTG CCGCAGCCAA GAAGCTTGAG TTCCCGAGGT CTCGGCGGGA 120
 GAGTGGGGG TACCTTGGGT ATTACAGGG ATACAAATTC GAGCGCATGG CGCTCCTGGA 180
 CCGTCCGGTG GCGGAAATC CCGCGAGGT TCTGGAGAGC CCGGCGAAAC AGGTGCTCCG 240
 35 CAACGGTCCG CAATACAGGA CTGTGATGAG AACCGGGTC GGGGAGCACA AGCTGGTGCT 300
 CGGAGCTGAG ATCGACGGCA TCATTGACTT CCGGAGCCT ACGGGCGACA ACGTGAAGCA 360
 CTACGTGGAG CTGAAGGTGT GTGAGAAGAA CCGGAAGTTC TCAGAGAAAC TTTTCTCTTC 420
 40 TTGGCTGCAA TGCTTTCTGG TGGGCATAAA CAGGGTATT ATTGGATTCC GGGATGAGAA 480
 ATTGCTCTG AAGAGCGTC AGGAGTTCGN TAGTTCAGAG ATCCACACC TGTAAAGGG 540
 CACGGAATAT TCCAATGTAT GTGTGGAGCC AATAGAGTGG TATGGTGCTC TTACGAAGTG 600
 45 GCTATGTGAG CTCGGCGGG CCTGAANACA CTTCAACTGT ACAGCTCTCC NGCTCCCNIG 660
 GTGCTTACGT NTGNCOCCT GGCNACAAT ACTCCCNAN NGGGACNATT NTCTGTITG 720
 TTCCCAATT GCGCGGGCC CNATATAANN CANATTCCN CNNTNTTCC CTNTGNITT 780
 50 TAAAAACCN TMTTCCAC CNATTNCCC AGANNACANA GGNNTCCCC ACCANNCTIN 840
 CCCANCCNA 850

(2) INFORMATION FOR SEQ ID NO:533:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 835 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1372RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:533:

GATCTTAAAA TAAGATAGAA TGTAATAAA TATCATTGAG GTACAATAGA TGCTGGTGT	60
ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTCTA AAGTATTAGG TGAAAAGAAT	120
ACAAATAATG AAAAGAAAAT TATAAATACA AATACIGTGA CTAAATCTTT AAAAATAAAA	180
TAACCATGCA TTGGTAATCT ATCTAAATTA OCTGTAATAC CTAATGGATT TGATGAACCA	240
TGTACATGTA ATAGCATTAA ATGCATAATT ACTATIGCTG CAATAATAAA TGGTACTAAA	300
TAATGAAATA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCTCATAAT	360
CATAGTACAA TATCATTTTC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA	420
GCACTCAAT GTGACATTTG TCCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA	480
GTAAAAATAA AGATAATAAC ACCAACTGTT CATACAATAA CTCTAGGTGA TTTATAAGAA	540
CCATAATATA AACCTTTACC AATATGAATA TACATACAAA TAAAGAAGAA TGAAGCACCA	600
TTAAGATGCA TATATCTAAT TAATCAACCT AGTTGTACTC TCTCATAATA TGTTCTACTG	660
ATGANAAAGC TAATCCATAT TANATGAATA AGCATNNCTA AAAAATACCN GTNAGAATTG	720
AATACTAACN TAACCTATAA AACCNAAATC NTCATATAA TGAGAAGGTG AGGGAATCAT	780
ACNACTATAA CNATTTAATA TATTGATTCT ATINCCATTT TINTININAT TTTTC	835

(2) INFORMATION FOR SEQ ID NO:534:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 854 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1372UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:534:

GATCTAGAAT TATTAAGTCA ACTATTAAGT AATATCTATA ATAATAATGG TTTATCATT	60
AAATCATTAA AGATAATTAT TAATAAATTA CCATTTAATA ATGATATATT ATTATCAAAA	120
AATTATGTTA ATAAAATAAA TAAATATAAT TTACTAATTA ATAATAATTT AAATAATAAT	180
AAAAAAGATT TAATTAATTT ATATACTTGA GATAATAAAT TATTAGATTT AAGTATICTT	240

AATAATATAT TATTAGGTAA ATATTAGTA GGTAGTAATA TCCAATTAAA GGGTAGACTA 300
 TTAAATAGAA ATATTACTAG ACTAATAAAA ATAAATATTA TGAAGGTAC ATTTAATAAT 360
 5 TATATATATC AATGAAGTAA ATTAAATAAT TTATATAAAT TAAATATAT ATCACTTAAT 420
 ATTAATAAAC TTAATAATCT ATTTATTAAT AAAAAATGTA TATTTAATAT TAAAAATTAA 480
 TTAAATACTA TTTAATAAAT ATTCTAAAGT AATTTCTTAT TTATTTTATA ACATTTTAAA 540
 10 ATGTTTTATG TTAAATAGAT AATAATCAAT TAAATAATAA AAATTAAGAT GCCACAAATA 600
 ATTCATTTTT CTTTATGAAT CAATTAACCT ATGGTTTCTA TTTATTTTAC NATTTATCNC 660
 ACTACTNATG TTTTTTTACC NNTGAATTTN ANAATATATA CTCNCNANTA NATATTNCA 720
 15 AATTATAATA TTAATTAAAT TTAATTAATC TATTATGATC CTTNTTNTAA ANATATCAGA 780
 ANAATTTAAT ATATATATNG AAATATNITT ATCCCCCNGG NCACTTGAAN AAAANTATAG 840
 TTTCTCCCC ACAT 854
 20

(2) INFORMATION FOR SEQ ID NO:535:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 827 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1373RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:535:

35 GATCTTAATT TAAATTTTAA ATTAACATT TATAATTTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAATA 120
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 40 ATTTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300
 AAATATACCA TTTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360
 45 ATTTAATTTA TATAAATTAT TTAATTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 TTTTATAATA TTTATTTTAA TTAGTCTAGT AATATCTTAT TTAATAGTCT ACCCTTTAAT 480
 TGGATATTAC TACCTACTAA ATATTTACCT AATAATATAT TATTAAGAAT ACTTAAATCT 540
 50 AATAATTTAT TATCTAAAGT ATATAAATTA ATTAATCTTT TTAATTATAA TTTAAATCAT 600
 TATAATAAGT AAATATATTA TTATTTTATT AACATAATTT TTGATAATAA TATACCATTA 660
 TTAATGNNNN TTATAANAAT TATCTTNAAG GATTINNIGG AAANCTTNN TTTTAGAAAT 720
 55 TNGGTAAANG TGNNCTAAAN NCCAATCCCN AATTATTTAA TTAATTTAAN AANAANNANC 780

CTTTTNTTNA ATTAGTPTTN AATTAAACCC NCTCCCCINT TTAANAT

827

(2) INFORMATION FOR SEQ ID NO:536:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1374RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:536:

GATCAATGAT AAATCGAAAT AAACGATAC TATTGTAGCC ATTTTCTGA ATTAGCACT	60
GGAAACACTT TTAAACCTGT TCCGGAGTGG TCTCTGACTG ATTGGAGTTG AGCGTCTGGC	120
GCGTAACTGC CTCGTCTGTC GTCTTAGCTC CGACGTTTTC CACTGCCCGC CGCTGGGTGC	180
CCACACGGGT CTCTTTCTGA ACTGCGAGTG GCCCCAACAT GTGGTCCACT AGCGTTGGTG	240
CGCCGCCAAG TTGCTGGAAT AAACGACCCA TCTTAAACCA GTTGAAGTGT GCAAAATCTC	300
CATACGCTTC GAATTGCCCTG AGATAGGAGT TCCGCTGCAT GCTCTGCGA AGAGCAGCAT	360
CCGCATGCTG ATTGGTGTCT TCATCTAGAG CGTCGCTGGT AGCATCTCCA TCATTTTGA	420
TGCTGTGGTT CTGGGTATTG CTAGCATCGT CTGTTTCCGG ATACATAGAG CCAGGTACAC	480
TCAGTGATT CAACTCAAGG TAGTCTTCCA GCAGAAACCG CTTCGCCCCG TTGACAAACT	540
CCTCAGGGCT CAAAAGCTTC CCCGCATTTG TCAGTTTITAG ATTGGGTATA CTCAAGCTTG	600
CAAGTGGCTG ACGCTCATCA CGCATGCGA ATCTTGGCA AAAGAGAATT GACCTCAGTT	660
CAATCGCCCG CCTGTCTTTA AAAACATAIT AACTCTCCN CGCNCNCAG GANAGAATNC	720
TCCCGTACTT CNANGNAGNC ANCTNIGGCC NTCATCTCAA ATTGCGNACC TNGINANTTG	780
GANCCNTTCC CGAGCCCCCTC TGCCCCCTA TTGANGNCG NCCCGTTTG A	831

(2) INFORMATION FOR SEQ ID NO:537:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1374UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:537:

GATCTTAAAG GGGATATAA AAGCTGTACA AAAGAAGATG AACAGCTTC CAACGCTTCT 60
 AAACITTGAT ACTTCCGCCA TTGCTTGGG AGATGAAGGC GAAACAAAAG AAAGTACCGA 120
 5 ATTTAGGGCT ATTATTAAAG AGTTTGAAAC ACAAATAGT TTCCAGAAGA TTTTATATGG 180
 GAATTAATAG ATAAGACTAG CATCTTTCGA AAACITTTATA TAAACCAGGC AGATTAGCTA 240
 CCTCTACAAT GTCTTTCAGA AGTCTCGTGG ACGCTAGGAG TGGCTCTTT ATCGTTGGGA 300
 10 AAACCACTTG TTCCAGAACT GTCCCAATAT GCTCTGCTT GGAAATATAA TAAGGGCGAA 360
 CATGCCATC GATTGTGTGG TCGTTTATAT CTACGTGCTC AATAATCTCA GGAATATAGA 420
 ACAAGGCAAG TTGTGAAGG ATTCTTCTA GGCACCTCTT TTCCGACGAC CAATCTACCT 480
 15 TAGITCCCAT TCTGTAGAGG AAAAATGGAA GTTTAGAAAG AGGCGGACA TAATCCTTTA 540
 AAAGTAAGGG TACACTCTTA ATGCGAAGT TGTCAAATC GGCTGTGCTT CCACATAATT 600
 CAATGAGTA ATAGTCTCT AGCATCTCT CATGTCCACA CTGTTGAGTT ATTCAAATA 660
 20 TCGAATGCCA CGCATATOC ATCTTAGATA NCGTTGGTAT ATCGCTAACT TCCGCAATCT 720
 CAACNCANC CTGATATNA TTCCCGAAN TTGNNAATN NNNATCCAT TGANAAAATT 780
 CCTTCCTTAG GACCTATCAC CCAAATANIT AACCGGNTT NANGATCCCT GMITGGTCAC 840
 25 AACCNCGGT CTNNN 856

(2) INFORMATION FOR SEQ ID NO:538:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 828 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1375RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:538:

GATCTTAATT TAAATTTTA ATTAACATTT TATAATTTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 45 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 ATTTTATTTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300
 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GIGATATATA 360
 50 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 TTTTATAATA TTTATTTTAA TTAGTCTAGT AATATTCTTA TTTAATAGTC TACCCTTTAA 480
 55 TTGGATATTA CTACCTACTA AATATTTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540

TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCT TTTTATTAT TATTTAAATT 600
 ATTATTAATT AGTAAATTAT ATTATTTTAT TTTATAACAT AATTTTTTGA TAATAATATA 660
 5 TCATTATTAA ATGGTAATTT ATTAATAATT ATCTTTATGA TTTATGACAA CCATATATTA 720
 TAGANATTGT TAATAGTTGA CTAATATCCN ATCCAACCTN TATTNATTTA NAGATCATAN 780
 ACCTTTTATA CAATTATTTT NATATAACAT NTACCTNATT ANAATATN 828

(2) INFORMATION FOR SEQ ID NO:539:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1376RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:539:

25 GATCTATTTT GCGGACTTCC CTTATCTACA TTATCTATC AACTAGAGGC TGTTCACCTT 60
 GGAGACCTGC TCGGTTTATC AGTAAGACCT GGCATGAAA CTATTCCTTC CTGTGGATTT 120
 TCAAGGGCCG TCGTAAGCGC ACCGGACCCA GCATAGATGC TGGGCTCTTC CAGCCATAAG 180
 30 ACCCCATCTC CGATAAAACC AATTCCGGGG TGATAAGCTG TTAAGAAGAA AAGATAACTC 240
 CTCCCAGGGC TCACGCCGAC GTCTCCACAC TCAGTTACGT TCGCGTGAAG AATCCATATC 300
 CAGGTTCGGG AATATTAACC GGATTCCCTT TOGATGGTGG CCTGGAAAAT CAGGCCTTTG 360
 35 AAACGGAGCT TCCCATCTC TTAGGATCGA CTAACCCAG TCCAACCTGCT GTTGAAGTGG 420
 AACCTTTCCC CACTTCAGTC TTCAAAGTTC TCATTTGAAT ATTTGCTACT ACCACCAAGA 480
 TCTGCACTAG AGGCCGTTTG ACCCAGCTTT ACAGCCTAGG CTTCGTCACT GACTCCACGC 540
 40 CTGCCTACTC GTCAGGGCGT CATATTCTGC CCTGACGGTG GAGTATAGGT AACACGCTTG 600
 AGCGCCATCC ATTTTCAGGG CTAGTTCATT CGGCGGTGA GTTGTTACAC ACTCCTTAAC 660
 GGATTCCGAC TTCCATGGCA CGTCCCG 688

(2) INFORMATION FOR SEQ ID NO:540:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 757 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1376UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:540:

5 GATCCAAGGA ACCTTTCCTT CTGGCTAACC TAGGGTACTT GTACTCTAGG CGAACCANGA 60
 CTTTACTTTT GAAAAAATTA GAGTGTTCAA AGCAGGCGCA AGCTOGAATA TATTAGCATG 120
 GAATAATGGA ATAGGACGTT TGGTTCATTT TTGTTGGTTT CTAGGACCAT CGTAATGATT 180
 AATAGGGACG GTGGGGGGCA TCAGTAITCA ATTGTGAGAG GTGAAATTCT TGGATTTATT 240
 10 GAAGACTAAC TACTGCGAAA GCATTTGCGA AGGACGTTTT CATTAATCAA GAACGAAAGT 300
 TAGGGGATCG AAGATGATCA GATACCGTGG TAGTCTTAAC CATAAACTAT GCGGACTAGG 360
 GATCGGGTGG TGTTTTCTTA TGACCCACTC GGCACCTTAC GAGAAATCAA AGTCTTTGGG 420
 15 TTCTGGGGGG AGTATGGTGG CAAGGCTGAA ACTTAAAGGA ATTGACGGAA GGGCACCACC 480
 AGGAGTGGAG OCTGCGGCTT AATTTGACTC AACACGGGGA AACTCACCAG GTCCAGACAC 540
 AATAAGGATT GACAGATTGA GAGCTCTTTC TTGATTTTGT GGGTGGTGGT GCATGGCCGT 600
 20 TCTTAGTTGG TGGAGTGATT GTCTGCTTAA TTGCGATAAC GAACGAGACC TTAACCTACTA 660
 AATATGCTGC TGCATTTGCT GTTGCCCTTC TTAAAGGACT ATCCGTTTCA ACCCANTGAN 720
 TTTGAGCATA CAGTCTGTGA TGCCCTAACT TCTGGCG 757

(2) INFORMATION FOR SEQ ID NO:541:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 821 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1378RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:541:

40 GATCCTTATA AAATGGGCAA TAGACGTGTT ATAATATAAT ATACAAAATT ATAAATAAAT 60
 ATTTAATAAA ATATAAAATT AATAATTAAA GTATTATAAT AATTAAATAA ATTATTTATT 120
 AATAAGTATG GATTTTAAAC TGAAATTTGT TAAATGAAA TAAGAAATGC TAGTAATCTA 180
 45 TTAATAAGAA AGTAATGGTG AATACTCTAA CTGTTTCGCA CTAATCACTC ATCAGCGTTT 240
 GAAACATATA ATTAAATAAA GAATATTAAT TAATTTATTA ATTATTAATT ATTATTAATA 300
 TTATTTAATA AATATAATAA ATATTTTAAT TTAAATTAAT AATTAAATGC AAGTTGAAAT 360
 50 ACAGTTACTG TAGGGGAACC TGCAGTGGGC TTATAAATAT CTTTAATATT CCATTTTAT 420
 AAAATAAATA TATTTTITTA TATATTTTAT AATAACTATA ATTAAATAGT TAAAATTTAA 480
 ATTATAAATT AATAATTTAA TAACTTATTA ATTAGAGAGT TAGGGTACAT CCCCCCTAAT 540
 55 GCTATGCAAT ATGGTTGGTA CACTCTAATT AATAAACTAT AATAAATAAA TACTAATATT 600

TTATACCATN AATTATAATT ATTTTAAANA NATTTAATAT TATTAATGAA ATATATAATA 660
 AGTATININA TTTNATAATA ATAAAAATGA NAAAACGACC CCTAATAATA ATTTGCATTT 720
 5 ANANTTACCC TTACACCTCC CNITAAATTT TTACCCINAT ANCCNINTTA ATTAAGGANG 780
 GNGNCCCCN TGCTCCCCN TGCCCCCCC ATTNANITTT A 821

(2) INFORMATION FOR SEQ ID NO:542:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 852 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1378UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:542:

GATCCTTGCG TACTAAGAGT TAGACTTTAA TTAATAATAT TATTTGTAGA AGATAGAAAC 60
 25 CATACTGACT CACGTCTAT TTAACCCAAC TCACGTAAAC TTTTAATTGA CGAACAGTCA 120
 AACCTACTTT AGCTGTACA ACCAAGAGGA TAGGTTGAGT CGACATCGAG GTGGCAAACA 180
 TAACTTACAA TAGCTACTCT ATCGTTATAT TACCTGTTC AATTTTGTTA TCATAATAAC 240
 30 ATTTAATTAT TATTTCAATA ATTCTCATTA TTGTTGAGC TATTTTATTA TGTATTATTT 300
 ATTAATTAAT ACATAITGGG CTTTCGTGGA TATAATTAAT GTTAATCCTA CTCATATATC 360
 TAGTGTGTA ACGTTCTTAT AACTTTATAA AAAGGATTGT TATAAGCTTC GCTGCAGATT 420
 35 GTCCTTTATT ATTATAAAAT AATATTAGGA GTTCTTTGCA ATTAACCCAA TTTACTCAAT 480
 ATATTTAAAT ATTGATAATT AAATTTTACA ATTTAATGGG ACTATTAATT AACCTAGCG 540
 TAACITTTAT TCGTTATCAA ATACCAATAC AATATGTATA TTTTGTTCAT TATGCCAAAC 600
 40 TTACGTTATT GTTCTACTTG TAGGTATTAC AATTATAGCA CAGTTATACC ATTATATTTA 660
 TTTATATATA TCCCATATAA GTTTTTATTA ACATATAAAC TGTCATTAT TTATCTNTTT 720
 TATATAAAAT ATNATTATAT TAATNATTTA TTAANATTTA NACCCNTATA TTAAATATAA 780
 45 TCNTTTTAA TAATAAATTA TTAAGGACTN TCCAACCTTT TTGAAAGACC CCCCACINCC 840
 ATTAAATGTC NT 852

(2) INFORMATION FOR SEQ ID NO:543:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 845 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1379RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:543:

GATCCAATTC TCTCGGTAGT TTCTTCCAT ATAGAGACTG ATCAACTAGC CACATTCCCA 60
 10 CAACAAAAGA GTTCTATCT AACGTCCAT CGGCTCTGT ATCTACCATG TCGTAGATTT 120
 GAGCCAAAGT ATCTGAGGT AGATTCCTC GAGACCAGAT ATCTGTAACA ACTAAGTTCA 180
 ACATTAGACC ATCTCTGGC ACCTCTCTTG TCTCATGTA GTTACGTTA TTCCACCATG 240
 15 GGAGCAAGTC AAGATAAGTG TCTCTATTG TGACCCACAT TCCCTGTAA CGCTTTCTTT 300
 CCTTTTCAGT TAGGTACCA ACATCAAGGT GCGACTTCCA AGGTTTGTCT TCGTTGAAGG 360
 AATTACGGTA TCGAAGATT TGACGTATCT TCTCGGCTT TTTGCGGAT CTTCTTCTG 420
 20 GACTTGGACT ACGGAGTTG CGGTGCTTC CGTAATCTC TTCAGAGTCT TCGCTGTCAT 480
 CGCTTAGTTG ATGGGCTCT GAGCTGGAAC TGTCATTAG TATACCCGC ATAGTGGTTT 540
 TTAGCCGCAC ATGCAATTTA CTCTGCACGA GAGGTTATC GTTCTGGTA TATATATGTG 600
 25 ACGTTGGGG GTGATCTTG CTGGGGCTA GCGAGTTG CCGATGGGC TTGAAAGCTT 660
 CATCCACTTG GANTGCTGG TTGANANITT GGTATTAAIN CAGGAANATT CCTCCGTAGT 720
 CCAGTTCATA GGAATTTGTT CATGTCAATT ACAANTTTC NACGGGAATC TTTTGGACT 780
 30 CNTGTACGT CGANGNATNT GTCTCCGTA CANTCCCGA TNCNCAAAN TNCCNCATT 840
 CNCN 845

(2) INFORMATION FOR SEQ ID NO:544:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 855 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

40

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1379UP

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:544:

GATCCGAAG TTAACACTGC CTGGGATTC TAACTTGGCA ACAGCGTATG TCGTGTGAA 60
 50 CATAGTCGAT GGAGCACATG AATTGGGGTA TCAATACTGA TTTCATAATG CTTTCTGGAG 120
 CCATTGACCT TCGTGACAA CCTCAAACAT AATTGGAGCC AATGGTTGGA CTTTATGTGG 180
 GGAGATGCAG TATTGGATG TATGCACTGT TGGTAGTTCA ATCTTTGGG GACAAAACC 240
 55 TGGTAAGTGA ATTGTCTCTT TGAAGGCCA CCGCTCCAT CATCCAGCAG GTTTCCTAAG 300

TTTTACGAC GCGAAAGGCT CGCGCCTTCG TGTATAOCC TAACTGGTGG TGCCTTGTGC 360
 TOGACCAGCA AGAACTTCTT TGTAGGCTCC ACTGGGTGTA CTTTCOGACC TTTACAATAA 420
 5 TACTCTAAAG TTTCGGTCAG GAATATTCTA ACCCTGTGGA GCACGAGATT AGCCCGTGGG 480
 TTTAGCGAGA GCGATATTGG TAGAAATGCG TCCAAAATA TATCTTTTGA TGCAATTACG 540
 ATTTTCATAAC TCAATTCTTT TTCCAGTCA CGTGATATGA CTATCGGTTC GGTATCTTCT 600
 10 ACAGAGTTTG GAGATAGTGT GCGGATAAGT TAATCGGAAC ACGACGTGGA CATTGGACTT 660
 AAGGTCTTAT GCGCTCAATG TCACTCAAGC AGGTATTTAC GTTCCCNATG TTACTAGAAT 720
 CTTCTTGCTC GACNCCGGAN TNGANCCCA AGAAAAATA TCCCCCGCNG AAAANAATT 780
 15 CCCTGGNGTG ACGTGTGNAT NACCCNACGA AAACNTCTC CTTCGAANGT NCCTTATATT 840
 CNNTNAAANA ATANA 855

(2) INFORMATION FOR SEQ ID NO:545:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 847 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1380RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:545:

GATOGCATCG ACCTOGCCAA AGTAAGGCAG OCTCTGACG GAGATCCAGT CGACAAGGTG 60
 35 AGGAAGCGTG GTGTTCTTAC CCTCGAACAC AATTGGCTCC TTCTGCGCCG GCAAGTGGAC 120
 CGCCAAGGTC GGCTTCTTAG TTGGGTACTG CACAAATACA AAGTGTTCG GGAGCAGGTT 180
 GGOCAGTTTG TAAAAGGACT CGTTCAGGCC CTTCAAGCCA CCGTCAACCA CCACTGCGGT 240
 40 CTTGGACTCC GCAAGCAGGT CCTCCAGGTC CTGGGCGGCC TCCTTGCCCT CCAGCACCGT 300
 CAOGGCGCGC TGGGCTGGC GCAGCATGTA CGCCACAAT TTCTGGGCT TGGTGGGCC 360
 CGTGTATGCC ATGCCCTCT CTGACGCCCC ACTGTGGAAC AACTTCAGG TGGGTACCC 420
 45 GCGCAGTTT TGGGCGCGC ATAGATCCAG CTCTGCTCG CAGTCCACT GCGCCAGCTT 480
 GATGCCCTTC TGGCCAGCT CCGCAGCGC CTTCACTAC TCGGTGCCA GGTGCTTACA 540
 GTGGCCACAC CATGGCGCAT AAACTCCGC CATCACAAGC GGGTTCTCT CTAAGAATT 600
 50 CCGAAGCTC TCTCGGTCA ACTTGACACT GCAGATCCT CTGTGCACT GGCATCTTG 660
 GCCTGTGCAA CTGTCCAGC AACCGGCGAT GGACAACACA AACCGCTTG CCAAAANCT 720
 TCTGCTGGG TCTATCTAC CCGTGGTTT GTGACTCTG TGGGATCAA ANCCGGVING 780
 55 CNATTTTGT TTTATACTGA TCCAGAATC ACCCTNTCNC AAAACNNTIN CCGAAAAGA 840

NCGNGIN

847

(2) INFORMATION FOR SEQ ID NO:546:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 860 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

- 10 (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1380UP

- 15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:546:

GATCTCGCCT GTTGIGAGTG ACGCCGAGTT GCGCGAATTG TAGCAGTGCG AGAGGAACGT	60
CGCGACGGTA TCGTTTGCCA GCGGACAAC GCGCAGCTG CCCAACCCGA CCGCGTCCAA	120
CTGCTCCTGG TACATCTTGA CCACTCTCTT GCGGATGCA TCCTTGATGT TGAAGCCCTT	180
CGTCCAGCGG ATCAAAGTGC CGCTOGATAG CGATGTCTGC GGCACGGGAT ACGAGAACGT	240
AAACCCGAGC TTCAGTTGGC CGCCCTCGCT CTGGAGCACT TCAGAGTGGT AGCGCTTGAC	300
AAACGCCATT GTGCGCTTGG CGATGAAGCC GAACAACCTG TCTGATGTTA CGTGTGTGTC	360
AAGGAGCTCC TOGGGGATCT TCGACTTCAA CTGCTCCAGC TTGAACGTGT GATCACCGTT	420
GAGACGCACC GAGCACACCC GGAAATTGCT GCGGCCAAGG TCGGCCGCCA AGAACGTGCC	480
CTCTCTAGTG CCATTGGGCG TGCCCATCAC GTACGACGGG ATCATGGGAA GCGCACGGTA	540
CTCCCGTCCG TCTCTCGGTT CTTGAGAACT GTTCCATACA TTGATGAAG TACGCGGTCA	600
ACTGCGGGAG TTTGTCTCC GTCACTCGA AATCTTACA TATTGTGTC ACTGCTCTTC	660
GACTTTCCCG CGTTGCGCTT GTGCAAATCT TCNAAAANAT CCTGGTACTG TAAANATTAG	720
ACTTCGANAC GTTGGTGGAG TCTTTCTNCG TTNCTACTC NCGNGCCTG TCNANTATT	780
TTGANGGGGN TCCAATAAAA AACCTTTTNG GGGGTGCAA GNGACCTCC ACCCTCTTTT	840
GTTCGCCNT CCNNAATGA	860

(2) INFORMATION FOR SEQ ID NO:547:

- 45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 835 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

- 50 (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1381RP

- 55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:547:

GATCATTATA TTATAAAATA TAATAAAGAA TATATTTAAA TAATAATAAT AATATGAAAT 60
ATTATATTAA TTCTCCATTG GAGCAATTTG AGATTAGAGA TTTATTAGGT TTAACATCAC 120
5 CAATAATAGA TTTTAGTTTT ATTAATATTA CTAATTTTGG TTTATATCTT ATAATTCCTT 180
TATTAGTAAT TTTACTAATG AATTTAATAA CTAATAATTA TAATAAATTA GTAGGTCTTA 240
ATTGATATTT AAGTCAAGAA ATAATTTATG ATACTATTAT AAATATAGTT AAGACACAGA 300
10 TTGGTGGTAA AGTATGAGGT TATTATTTTC CATTAGTTTA TACAATTTTT ATTCTTATTT 360
TTACTATAAA TTTAATTAGT ATAATTCCTT ATTCATTTGC TATAACTTCA CATGTAGTAT 420
TTGTAGTATC AATAAGTATA ATTATTTGAT TAGGTCTAAC TATTATTGGT TTTTATACTC 480
15 ATGGTTTAAA ATTCTTTGGT TTATTTTAC CACTAGGTAC ACCATTAATT TTAGTCACCA 540
TTATTAGTAT CAATTGAATT ATTATCATAT TTTGCTAGAC TTATTTCAAT AGGTTTAAAG 600
TTATCAGCTA ATATTATAGC TGGTCATTTA TTAATTGTTA TTTTAGGTGG TTTATTAATT 660
20 AATCTAAANC CACAAATATT TAACTTTTIN TTAAGTTTNN CCNATGAATG CTATTINAGT 720
ATGINTGTTA GAATTTINAT CTTATACCG CTTANINIGA AGTININAATA CNOONTATNA 780
AACTATTTAT TCCTATTATA ATTAACANTT NAACNCCNA TTANTTINTA TNCCT 835
25

(2) INFORMATION FOR SEQ ID NO:548:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 863 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1381UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:548:

GATCATTGTC CAATATTCCC CACTGCTGTA TCATATAGAT ATTGATTATA ATTTCTAAAT 60
CAACGTGATT GTTCTAACTT TAATTAACAA TTATGAATTT TTGGCTAGTT ATTATTTTTT 120
AATTAACATA TACCTAAATC ATTATAAGCT TGACTTAAAA CAAATAATTA TTACATTATT 180
45 CTTTATTTAT TATTTAATAT TTAGTTAAAT TTTAAGTTCA TTATTTCTAA TTTTACTCA 240
CGAGTACACC ACTTATTAAAT ACTATTAAAT AATAATATTA ACGTTTGATT CGCATGTGTA 300
ATGTCCTTAG TTAGCGCTTA ATCTGAACCA ACATCATGTT CTCATTATTA TTAATTATTT 360
50 TTAATTATTT TAAATAATTA TTTAATACGA AAGTTATAGG ATTGGAACCT ATGAAATCAT 420
AAAGATTAT AATAGCTCAA ATATTACACT TTAAACCACT CAGTCAAACT TTCTTAATAT 480
ATATACCTTA TATATGGTTT GATAATTTAC TTATAATATA TAGTATATAA TTTAATGATA 540
55 AACTCTTATC ATTTAGGTGC GTAGGGTTCA CCCCCATTT GCTAGTCAAC AATATGATGT 600

ACCTCCTAAA TGATAAAGAA GTATAATATA TAAATATTAA TATTAAAGTA TTTAATGAAT 660
 ATTATTATTA TTTATTTAAT TATTATTTTT ATTTAGTAAA TAAATAAATA TTTCCTACTTA 720
 TTGAAATATA GGTTCCTINGA TTAGAAATAA GCNATNATAA TGTCCTATTG ACTATTAAAT 780
 ANGTGCTCN CNNGACTTCC CTATTTCNCCN MNGANAANTC NGAANATCAG AANANAGATT 840
 CCNANATMTT TAATNNNNCCC CCA 863

(2) INFORMATION FOR SEQ ID NO:549:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 845 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1382RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:549:

GATCTCACAC GTGACTAAAA TCACTAACAC CACGTGACTT CGTGCAAGTG GCATGTGCCC 60
 ATTCTGTGGG TCGCTAGCAT TCTGCCCCGG CATCTGTGTC AGGCCACTGC GCAGCTGACC 120
 ACGCCGTACC ACGGCAGGCT TCACGACAGA CGGCAAGCTC AATCGCTATC TACGGTTTCA 180
 GGTGGAATTT CTTACGGCA TCCGATTAAAT TGCTTTTTTG GCTTCCTTTT GCGCTCTTTT 240
 TTCCAGTGGG TTGCTTCCTG AAAACAGGGA GCTAGCTTCC CGTAGTACGT AACAGTCGTA 300
 GAGGGTTAGG CATCGCTGAG CTCGAGACCC GGTGATGCAA TGTCACAAAC CCTGCTCTGC 360
 GCAAAACGGG CACGAAGATT GAAAGTATCC AGGAGTGCAG CCCAGGGTCA TCGAGACAG 420
 AATGGGCCAG AAAAAGCGAA AAAATGACG ACGCTTTTAT ATATATATGT AGCGAGGCG 480
 GCGTTTCCA GAACGGGACC CGACACAAC TGTGTAGAA TTTCTATCTG CAAGGAATCA 540
 AATACAAAAT GGAATCTAGA TTGGGATGGC TAACTGTTT GAACTACGAC ACTGGTTCTG 600
 CATTGAGAAG AACTCATCA TCGGACAAT GGTCCTAAGA CCAACCAACC AGANACTTNG 660
 TGGANCTTAA AAAGNGGGT TGAACATCCT GAGAATGAAC TTCTGCGNCG GTCCCTACAAT 720
 TNOCCACATC GGTGNTCNAA NACCCNNAAT TCGAGATTNT NOCNGTTAAC NITGGCCTTG 780
 CTTTGAANCC AAGTNCCTGA ATNAAATGIN CCTNTGAAA NITANTACCN TCCCTACCC 840
 AAANC 845

(2) INFORMATION FOR SEQ ID NO:550:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 862 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1382UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:550:

25	GATCTATAAC AGGTGCCAAG TTGGCAGATT TGTTCAGGG GCTGACGAT GTAGAGTCCA	60
	GTAGAATGCT CTGTAAACCC AGAGCATACT TTGGGCGAAA GTCTTTATCT GTTGAAATCA	120
30	ACTGGGGTAT CGCTTTTGAT GCTGTCCCGG AGGTTGATGC CTTTCTTGAT CGCCTTGTC	180
	AGTATCTGGT TGTAAGCTC AATGAGCTCC GCATGACCAC GTCCATATT GTTTTGAAAA	240
35	TAGCACGAG AAGCAGGGAT GCGCCCATCG AAGCCGCCAA ATACTTGGGC ATGGGTGACT	300
	GTGACAGTGA TAGTAAATCG TGCAGATTAG GTCTTGCTAC CAATATTCTT GGGTTATAT	360
40	CTGCAGAGAT AAAGGCAGCT TTTCGCATGC TATGCTGCC CGCAAAGGAA CTGGGTGGTA	420
	TAGCCGTCA GTTCTTTAAA CTGAAGGAGG CATCCATTTC TCAAATGCC CGTCAGCTCA	480
45	GGTTTCATT TGGTACAATC AGACCTTTAA CAACTCCAAA GAATCGTATC ACAGCGTCGG	540
	TTACAGAATT GCCACCTGTA GTTATAAAA GGGCCACTCC TATTAAGGAT TTTTGTGACC	600
50	GGCACAAGAG GACTCAGATT CACCATCACC TGATTCACCT ACATGATGTC TGGTCAGCC	660
	TGTGCGAGT CATTCCTGGT GGATTACCTA CGATCTTGG GAAAAATCCN AAAAAACATT	720
55	GACNATCTNA AACCAGACTT CTTTNTTGCN ATTCCCAAAA AAATTGGGNN GNGCCCGGT	780

TNNATCCCAN CATGCCCTTA AAATTTAGAT CCTTGACCCCT ACTCCNANTT GNTNCCCNAA 840

5 AAAAAAATA TCAATGININ CT 862

(2) INFORMATION FOR SEQ ID NO:551:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 823 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1384RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:551:

30 GATCTGCATC GCGTCCACCG TGGACTGGGC GGTCTGTTGGC GGTCAAGGAA AACTCGGGCG 60

ACTCGTGAT GGTGCGCGCA AGGCTCTGT AGCGGATGG CACGACCTTC GCAAAGTAGG 120

35 AAAAGAAGTG GCTATGGCCG TTGGGAACCT CCATGGGCG GCCATTGAGC GGCCCGGGGT 180

TGCCGGCAAT TTGCGGCCCA AAGGAGAGAC TATGGATCAC GTGGTTGAAG GAGAGATGG 240

40 GGTGTTCCTT GTAGAAGGAA TGCTCTGGG CGTGGCCCTT GCCAACGTGC GCAGAGCCCG 300

GGCGAAGTG AATGTTCCCG TGAACGCGT TGAGCTGGC GGTGCCAGCG ACGCGGCATC 360

45 CCTCGTTGAT CTGCTCTGC AGGCGCTCG TGTAGCCCTC GCGCTTGCAC TGCTCAAAGC 420

CTTTGCCATC GAAAGTGGCC CAGTTCATCT CTGGTACGC CGCGCGCACC TCCCGCAGG 480

50 TCTGACAGCA CACGCGCTCG CTGCGCGCA GGTCTCTGTT CTGGTCTGG TCGGTGGCG 540

CATACACGC CACAGTAGTC TTGTTGTCT GTAGACGGCA ACGTCTGGC ACTCGGAATT 600

55 CCTCTTCCC CACGTCCGTC CNTGTTGTC CACGTTTTT CCTTGATCCT CCTCCAAGCA 660

ATTCACGTGIG CTCCTGTTC TCINTANNTC CATTTCATAC TCCCCCGGAT CTGCAAACT 720

5 TATATCNAAC CCCACTCCNC TCTGCTGCCG TCCTTCAANC ACTGNGCGTC TCCCTCCCCA 780

NTTCCCTCCT ANCAAANACN CGTTCACAAC ACCNCTATN CCT 823

10 (2) INFORMATION FOR SEQ ID NO:552:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 849 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1384UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:552:

30 GATCACTTTG TTGTGTCTG CACGATAAAT GGCTCGGTA CAGAGTTTTA CGAGTGTTTC 60

35 TTGGCTGAGA CCGACAGGT CAATCTCAGA GTTTTTACTA TTCATTAGTG AGTAGATTGA 120

CGCGTAGTTA TTATCAAAGG CCACCGGGA ATTGTTAAAG AAGTTGGAAA CAGATGATTT 180

40 CGACATGGTA TAGTTCGTGA GCTTAATTAG AACGGGCAGG TCTGAGCTCT CCGGACGGG 240

AGTACTGTTT TGAATGGGTG GCACAGCCAG TGGCGGTTGG GCGTGACCA TGCCAAGCTG 300

45 TGGGCGCGCT GTCAGGCGCG CTGGTACTGG AGCGGCGCAG CTTATCGGCG GGTCTGCTGG 360

TGTGGGGAT TTGGAATAC GGTGTGTGCA CGCTGCTAGG TATTTTTGCG GCTCGCTGG 420

50 GCTCATCTTC TTCTCGGTCA AAGCAGGTC GAAGTTCAGA ATACCTTAC TCTGTGCTC 480

CTCTGCAATC ATGTGCAACG TTTGCGCGAT CTTCCCCAGC TTGTGGTGAT AGGGCGCCAG 540

55 GTGCGCCGAG TTCCGGATCA GCTGCGCTTT CATGCCAAG TTAACGAAAT TCTGTGAACA 600

GCGTTGACG CAGCGTTCC CAAGCGGTAC CGCAGCGCAA ATGTTTTTCC TGCTGGTACT 660
 5 TGTGTGNAT ATTGAATCA ACAGGCCCC CAATAANCT GTCCACGGG CCGGTTCTT 720
 GANNAACCA GCATCACACC GCNAAAAAC GGGCCCCACN CGTCGTCATC NAACTTACCC 780
 10 CTCCAGACTG NNTATOCANN GCATNCTCT TTTTNTTCCC GTGINTCTGA AANTNCNAAG 840
 CCCCCACT 849

15 (2) INFORMATION FOR SEQ ID NO:553:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 862 base pairs
 20 (B) TYPE: nucleic acid
 (C) STRANDELNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

30 (A) ORGANISM: PAG1385RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:553:

35 GATCGACCTC GTATCATGG GCAAGCAGC CACCGACAGC GACAACAACA ACACCGGCA 60
 GATGCTGGCG GGCTTTCTCA ACTGGCCGCA GGCCACCAAC GCGGCGGTG TTGAGCTGGA 120
 40 CCGACTGGC ACGCGTGGG CGTCAAGG CGAGGTGAG GCGGCGAGG AGGTGTCAG 180
 TGCGGCGCTG CCACTGTGG TCACCAAGGA CCGGGGCTC AACAGCGCG GCTACGTCAC 240
 45 GCTGCCAAC AAGATGAAGG CGAAGAAGAA GCGATGGG AAGCTCAACC TCGCGCGTT 300
 CCGGCGCTC GACTCGCGG CCGGCTCAA TGTGCTGCG TTGAGGAGC CCGCGCGG 360
 50 CCGCGCGGC ACGTGTGCG CGTGGTGA CGAGCTGCTC GCCAACTCA GCGAGGCCAA 420
 GCGGTTTAA CACCTATATA AACTAACAGC CCTATTTC TCGCGGAGC CAGCGTCCG 480
 55

CTCTCCAGCA GCCCCGGGCG CTGCTTGCGC AGGTACGTCT GCTGGTACCA CCGCTCCAC 540
 5 TCCCCGCGCT GCGCCCGGCG CTGCTGTACG CTCTTCAGC ACGCGCCGCG ACTCTCTGTC 600
 CCACGCGCGG AGGTGTCTCC CCGGTGCTGT GCGGCCCCGCG CTATCTTCCA ACNCGGCAG 660
 10 CTTCAGTTT CCGCCGCCCC CCGGCATGT NCCCCNCAA CNGTTTTTA CACNGGATNT 720
 TNCNNPTTG TTNCCNNTN NTTCNCCC GTGGAANTGN TTGCCNPTG CTTGANAATG 780
 15 CTANCAACC CCCCATTG ATNGGCCCC CCAAAATNA ACTTCCACT TTGCCGAGAC 840
 CCGGCGTGT NCCCTTNTT AA 862

20 (2) INFORMATION FOR SEQ ID NO:554:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 851 base pairs
 25 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(v) ORIGINAL SOURCE:

(A) ORGANISM: PAG1385UP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:554:

40 GATCTTGAG GGCTGGTTC TGGGCTTGA GCGCGGCGC GAGGCGAGC TCGCGCGCG 60
 GCGCGGACC TACGGCGCG CCGCGCTCG CGAGGTCAAC GCGGCGCTG AGGACTACTC 120
 45 TGGTGTCTG TGGCGCGCG CTGGGTGCG CTGGTGGC ATGTTGTTC AGCGCAGGT 180
 TGGGAGTGC GTGCCCCCT GCGCATCA GCAGGAGCAC GAGCTGCGG AGCGCTGCG 240
 50 CGCGGCGATG ACCGACGCG AGGTGCACG ATTTCTGGAG CGCTACCTG TGTCTACGA 300
 CGTCTACTAT GCGGTCTG TCGCGAGCG GCTCGGAAC CTGCACGCG TACTGTGG 360
 55

GCTGGACCGA GACCGAAAAG TTACGTATGT TAGCCAGAAG AATATGTAAT GCGAGTCTA 420
 5 TAGTTCTCTG TCCGAGATGT CCTCCCAGGG GATGAGATAG CGGTCCTGGT GCGCCTTGTC 480
 GCGCGTGCCG GCGGCGGGGC CCGCGGGCGA CGCGCGCTGG CGCGCGGCCA TGCTGGGGGG 540
 10 CGCGGTGAC GGCAGCACGC TGCCGCCGAG CTCGTCAAGT GGCGGCCAG GAAGGCTCC 600
 GTCTGGGCTT GCGCGCGGCT CAACGCTGC AGTCGGCGA ACGCTGCCA NCAAGTTGTT 660
 15 CGCGNGTCC ACTGCNCGG ACTTNTTAAA CACTCTGCT TTCTTGAAT CTTTGAACNA 720
 NCGNGTTGC GCTTNTNAC TTNATGANC CCCCCAAAC CCTNTTNG GCGTGGGGC 780
 20 NCCCGCCCC NNNCTCTCG CCNGGTNG TGTCTTAC CCTNCCCTT TNCNTAAC 840
 GTTANNTIN N 851

(2) INFORMATION FOR SEQ ID NO:555:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 857 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1386P

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:555:

GATGCACGT CATTTTACCT ACAGGCTGG CTTTGAAGA AGACGCTGC ATGGTACAAT 60
 50 GTCTAGCCA GGATCCACC TGTGACCAAG TTGCCAGAG AACCGAAGCT GCATGACCA 120
 GTTAGCGGCA AGTACAAGG CGAGCTGGAT ATAATGACG ATAGATTAAA CAGAAACACA 180
 55 GAGACGTACA AGACACGGC TGGGAGTCC GACCGGCAGA CGCGCGGCT GCACAAGCT 240

TCTAAGCTGC GGTTCATOGA GGACAAGCTG CGGTGCTGT TTTTCAGCA GCATCCCTGG 300
 5 GAGCTGTGGC GGCCGAAGGT GCTGGTGGAG AACATGGGA ATGAGCAGTA CGACTGGTGG 360
 CGGATGTTGC AGCTAGGCAA GCGCTTGAC GGTGAGTCTG TGGTGACGG GACGCTGTAT 420
 10 CTGCTGAAGT CCGGCGCGCA CCGGAGATG CTGGCGGCAT ACGACCAGGC GCGTTTGGAG 480
 TTCTATGTC TGAGGATGCA GCAGGAGCTG GAGGAGCAA TAGCGTACGA GGAGGCCACG 540
 15 ATGGTTGGCG CTGTGTTCAA GACAACCGCT GTGGAGCAGG GTCTGCAGCA AGAGCAGAAG 600
 GTCTCGACA GTGGAAAGAA GACTTTGTTG CCGGTTTGC CCTGATTTTT GCNAAAAAAA 660
 20 ACTCTACAAA GCAGTCNTG GGCCNAACCC ACCGAAGAAA AAGAAGAACC AGGACNNTGC 720
 CGAACCCNAA GACNCCACT GTGNACTCN TTGCCAACTT TGTATATAAT TCTACNNTT 780
 25 TTATTCCTT NGTACAATNC NANNTACTGT TGTGTCCAT CATGTGCCCC AACAGGTTCC 840
 CCCCNTTGA NAAANGC 857

(2) INFORMATION FOR SEQ ID NO:556:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1386UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:556:

GATCCATGCC TCGTTATAAC TGAGCAGAAG TGTGCATGG AACAGAGGCG TTTCCTTGTT 60
 55 CCTTGCCAGT TCCCCATTC CCGAAGTTGC ACTGCAAAAT GTGAATCATT GATGCTTGT 120

5
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CGTCGCCATC GGTCCGCTGA AAGATCCTGT TCCGGTAGAC CGCATTCCTGT CAAGCGGAAC 180
 TCTAGGCGGC GCGGTGAGAG TCCAGATGAT GAATCTGAAG TTGAGGCCCA GCACGTGTGC 240
 TTAAAAGATT GTAATCGGGT GCTGCTTTGT GGTATCCACA TGTGCAATTA CAAATGCCAT 300
 GCAGGCAAAT GTCCCTCCCTG CTTAGAATCA GATTOCAATG ACCTTATCTG TCCCTGTGGT 360
 AAGACAATCG TACCAGCCCC TGTCCGTGTG GGAACAAAGC TCCCTGGCTG CACTCATCCA 420
 TGTGAAACT CGCTGCTGGA TACTTGGCCC TCGGACACA GTCCACCTTC GCATAATTGT 480
 CATCCCTTAG ATGAACCTTG CCCCCATGTA CCATCACAGT CAAGAAACT TGTGCTGCG 540
 GTAAAAACA GATCAGGACA TTCTGCTACA ATGATGATTG TCGTGTTCGA GACCGTGTA 600
 GAAGCCATGT CCTAFTGCAA TCACITCTGC CAATTNCTG TCATTCGGAT GGCAATGCCA 660
 GCAAACITGT TAGCAAGCCT GTGGTGNACC ACCGAAAGCC GCACNIGTTT GTTAGGGAAA 720
 TGCNTGGCNT NCGNATGCCT GAATCCCTGT NNNAAAAAA AANNCOGTC CGTTGTCCAT 780
 CNCCACCAAT NTGONTGATT TGCTGGAAGA GAANGTTCG ACACCNCCCC GTCCGTNAAG 840
 AATGTGCAAT CNNGN 856

(2) INFORMATION FOR SEQ ID NO:557:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 830 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1387RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:557:

GATCAACCAC TCGTGTGGCT ATACATAGGA ACCAAAAAGC CTTCGTGGCT GGTCCTCAAG 60
 5 TAGTATTGTA TAAGTTTGA ATCCTTGTAC GCGGTGGCT TCCGGGCACC TTTCATATTT 120
 TCGGTAAAAG CCTCCACAAG GTTCCTATCT TTATCCTTGA AGTTGTCTCC ACAGGACTCC 180
 10 CACAAGAAGC CCCAGCAAG CTTCCTATCT TTACGTATT CCTTCCTTAT TTTCATTGAA 240
 TCCACATTGT CGTAGACGAC AAGAGTTTTA GTATTAGGAT CGTAGCTATA TGCAGAGACC 300
 15 CAAACATTGT CAAACTTCTC TGGGCGTGA GCTAGCGGCA ATTGGTTGTA TAGCCACATA 360
 CCGGTTCCC CTTCGTATCC TCCGCTACA CCAGAATATT TCTGGCAAT TAGTTGTTC 420
 20 CCATGCCCC GAACGTTGGT GAAGCCACGG CCATACGCTG CCATGCGAG TGCAATTTT 480
 CTGGGCTGA CCTTAAATTG TTGGTCAATC ATGAGTATCG CATCATGTGC ATTCAACTCA 540
 25 TCAAAGTTGT CAATACCCAT ATCTTCATAC CGACGCTTAT CTAGGTGGA TTGTACGGCG 600
 AATTGTTAGC ATTGTACAAG TTGCTATGGT AGCCTGTTG CTCTGACCAT GCACCGTGGT 660
 30 ATCGTATGTC ATCATATCCN CATGCTGAAA ACTGTTCACT CNCAACCGGA AATGCAATNT 720
 CTGAAGAAGC NGGCTGCCAG CTTNATTGAA CCGTCTGTN TCCCCGGCC CNANATNTT 780
 35 CCATCTCNNT GTTNGCAGG GINTTTTNA AACTGGNTC GNNNCACCA 830

(2) INFORMATION FOR SEQ ID NO:558:

- 40
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 857 base pairs
 - (B) TYPE: nucleic acid
 - 45 (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: DNA (genomic)
 - 50
 - (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: PAG1387UP
- 55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:558:

5	GATCACCACA ACACAGAAGC ACGCAACGCT ACAGGACTTC CCTGTTCTTT TGCTTCACA	60
	CGTCCAGCCC AGAGGACGAT TACACCGCCG TCAGGGTTGG CTAGTCTCCG GCAGCACAGG	120
10	CTCCTTATCA CATTITGCAT TTTCACGCTC GCACATGTCA CAAATAACCA AATACATCCC	180
	CAAAAGCAGC CTTTTTCTCT GCGCGTCTTT TCTCATCGCG TCAGACTTCG TACTCGCTAT	240
15	GAGCGGCAAG GGCACGCGCG CAGGGAGCTC ATCTACAGGC ATCGGGTCGC GCGCCACGCG	300
	TCTGCAGCGG CTGCGGCAGC TCGTAGCGCA TCGAGATCCG GCAAGAGGCG CGTCAGGTGC	360
20	ACTTACGAGC ATCGAAGAGT TTACTAGGAG ATGACAGCGC CTGCACGTCC CTGAGGCTAG	420
	CCTCCCGAGG CCGGCGGGCC GCTTGGTATA GGGTTTACAT AGCAGAATGG CACGAATATT	480
25	TGCTCTAGGC AACTGCAGGG ACGGAAGGGG CTTCATGCGA AATCCTTGCA CCGCCGGGTG	540
	CCGTATATAA GGTGACCCAG CTGCGCAGCT GGGCGGGCA TGCTAACCCAC GACAGGATGT	600
30	GGAGTGGTGC CGATTATAT ACGACAAGCC GCGGTGGACG GTCGGTGCAC AGGCAGGACA	660
	CCTGGGGGAA ATCCCAANTC GTTGAACAAG GGAAGTGGTG CAGCGGGCGC AATCTACAAG	720
35	AGTTGTITAN GGCGGCGGTC ACATTITGCG TTINACTGAC CCTGTCTCGA TCCANGAAGA	780
	GGNCTGGCAT NTCACANAAC CTCCCCACAG CTGTNGACTT GAACTCCNGC CTACCTTGAT	840
40	TTGCANNCCA GAAAAAN	857

(2) INFORMATION FOR SEQ ID NO:559:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 821 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1388RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:559:

10 GATCCACCCA AATTCGTCTG TGCTGGACCA GCTTCCCAA CAGTCTCOGA GGTAATCAGG 60
 CTA CTGCGTT CCTATTTTAT GGCTTCAAT AACTCTTAT ACTTAATTTA GAAGTTAACT 120
 15 TCCACATCCG GTATTTTTCA CATCTGAGAT ACTGGCAAGC ACGCTAGCT TTAGGAGAAC 180
 TGTATCCCAT GACTTGTTGA CAGGGCTTT ATGAAAAAAC GCTGTCCGT GTAAGGATAT 240
 20 AGAAACATA CTGAGATGGC TTTTGTGCT GAATCAGACA TTCTTAGGTT ACATTTTGGG 300
 CCTGGCTGTA CAAGGCACTA ATATGAAGAT AGAGTTATAG CGGTGAGAA GGAAAGGCTC 360
 25 CACTGGGTGT TGCATGGGAT TTCAGGTCG TGATAATAAT GCCAGGCAAT CATATAGATT 420
 ACCACGAGG AAACATCAAC GCTATTTAAG GTCATCCTTT TTGACATCTG TCGAGGAAGT 480
 30 GGAATAGCT GTAAGGCAA CTCTACAAGA TCCCGCGTC TCCAAGACCA ATGCTAAGCA 540
 CCACAACCTC AATGACCTGA TTA CTGGGGA GCAATTCGT CCTGGAAAGT TGGCAGCTG 600
 35 ACTGACTGGT TTTCTGCCCA GAGATCAATC NATTGATCCN TNATCCCTTA CATNCCGGA 660
 CTTTNGAAAA CCCAAATTAA AATTCGGNAN NCCAAAATCC NCGGATTGNC CACCTTGAA 720
 40 CTACCCACNC GGCCCTATTA TTTTATAATT GGNACAANN CCGATCCCC CGNNAACGN 780
 45 GTAAANCGAA AACCCCCCGG NNTTCGGACC NNCNTTTTNC T 821

(2) INFORMATION FOR SEQ ID NO:560:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 838 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 55 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1388UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:560:

GATCCAGCGG	CTTGGTAGCA	TGCTGGCCGA	GGAGTTCGGC	TGTTCTGGTT	TTGCGCGCTG	60
AGGCTCACTT	ATAGGTGCCG	ACTTCGATTG	CCACTGTGTG	CCAAGACTTG	CTTCCTTACA	120
TAGCTAAATG	CCACTGATCA	TATAGACTGC	TTATTCTGTC	TTAACTGCCT	CAAGTTTCCA	180
TACCATCTCC	GCGTACTCCT	CTATCCAGCG	GTCAGTCTG	AAGAAGCCAA	CGTTGGCGAC	240
GGACAGGATC	GACTTCTTGA	GCCAGGCCCG	GCGGTGCGCG	TGGTAGAGCC	GGTCAACGAG	300
AGCCTGGCAG	GCTATGTAGG	AGTCGAAATC	GTCGCTCACC	AGGTAGTAGT	CCCCGTGCTG	360
GGGACGGAG	TCCACCAGAG	GTTGGAATTC	AGCAGGTCC	TGAGGGGAAA	ATGCGCCCGA	420
GGAGAGCGTC	TCCAGTAGGC	GAGCAATGGG	GGCTGGCAAC	TCTTGGCGGT	GATACCGGTG	480
CCGGTAGCGG	AGGTCTTCCA	CATCTTCTGC	GAGATTACCA	AAGAGGAAGA	TGTGTCTTTC	540
GCGATCTCG	CGTGTGATCT	CGACGTTGGC	GCCATCGAGG	GTGCGGATAA	TGAGACACCA	600
TTCATAACGA	ACTTCATGTT	NGAATTCCCN	GAACCTCATT	ACCGCTGTTC	AAANGTGCTC	660
ACTAATCGGA	ACNGGGANAA	TATTGCCCCG	GAANATGTAT	CCCGAATGAA	ACCCCTCAGA	720
AATACNATCC	CTCTCTTANA	CACNGCCNC	TTATTACCTA	TATNGCTGCC	NITTTACCCG	780
GCCCTTCCCC	CNAAAAATCC	TTGAGAAGNC	CCCTTNNIN	GGNNCCCGTN	CCNTTTTA	838

(2) INFORMATION FOR SEQ ID NO:561:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 826 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1389RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:561:

5	GATCTTCTTT TTGAAGCCCA CAGACACAAA CTGTGATGGA GTGCTOGAGA CGCCAGCTTT	60
10	GGACGACTTC CTTTTCTTAG ACCGGGAGT CTTTTTCTA GGTGTATGTC TTTCCTTGGT	120
15	GGGTGTITG CTCACAATG CCTTTAGCTC TTGACGACA ATCTTTGTGG ATAACCTTTG	180
20	GCCATCTAAT GAGCCCTTTT CAATGCAACC TTTGATCCAA CATCTTCCAT TCCAAAGAT	240
25	ATTTGTCACC ACCAACATAT TAGTGGAGTT ATCTTTCCCC CATGATAAGT AGAATCTGGT	300
30	ATGTATTICA AAGCACCTC CCGAGGGTAC ATCTGGGCTC TTGTTATCT GCTCCACTAC	360
35	TATGTGAGAG TTCACATGC AATGTAGGAT TTTTCTCTG ATCAAGCATC GGTCTGCTT	420
40	AGGACCAACA GGATTGTTA ATGGCTTGAT ATATTCATAT TCCCTCACAT TATCTGAGAA	480
45	TTCAGACGGT ATAGCTGAAA TATTATGATT AGCTGTTTT TCTAATATCT TTTCAGTA	540
50	GGACGTGTCC TCACCAATA ACAGCTTGTA CAGACACCC AATGGTGCTG CGATGGAATC	600
55	GAATCATCAA CAATAACATC TCCTGGTGC TGTATAGGT GTTCTTCTC GGAGGAGCT	660
60	ACTAGGGGGA TATTNGTAAA TATTAAGANA CANTGTGTA CTGTNGAAC TGCNCGTAC	720
65	TTGATTMIAT AAAACCTCEN AATGTTACCG TTCNACNCT TNGAGANTIN ANCCCTCNAA	780
70	TCCNTCCNC GTGANITTC ATCTCCCTC NCTTACTG ATACNT	826

(2) INFORMATION FOR SEQ ID NO:562:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 839 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1389UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:562:

GATCCGTGGC	ACTTTCAACA	TTGTGAACGA	CTTCACACCG	GAAGAAGAGG	CTGCCATCCG	60
CCGTGAGAAC	GAGTGGGCGG	AGGACGGCTA	GCCACGGCCC	GCCTCTATGT	ACCATAAGTA	120
GCCGATATCT	ACCGCTGCGG	GCGCGGGCCC	CGCCCGCGCC	ACCGTTGGGT	GCCAGGAGCT	180
GGTCTGCGGA	CTATCCGTGC	CAACGTACGA	AACGATGCTG	GTTTATGTGG	TCCGCCCGCC	240
GCTGGTTACA	ATTAACCGCC	CCAGGTCATC	GGTAGACCGA	GCTAGCTACT	CGTTGTCTCTG	300
TAAGTGAGTT	AACGCACAAG	GGAACTATT	CGTGTGGTCA	GGCAGCAGAG	ACGCTGCAGG	360
ACATACTACG	AGTTATTCTT	CATAACTAAA	CATTTTGTAA	ACCTTGTGTG	CGGGGGCCAG	420
GTCGTTTGGC	AAAAGGCGGC	GGAAATAACA	GGGAGGAGAG	GTAGATGCTC	TTCTCAGGCA	480
GAGGCTAGCA	AGGATGGCAG	AACAGCGGAA	GCGGTGCGCG	TGCTCAGAG	AGAGGGCGCG	540
GGCACTTTTC	AAGAAGCATA	CGGGGAAGG	GGGCGCGGAA	GGGCGCGCGG	ACAGTGCCAA	600
AGACGGTTAC	GACCCGAATG	GGGAACCGCG	GANCGGGCCC	GAGCGGTINAT	TTCAAGTTGG	660
CGCNGGAAG	GCCCGANTTT	NAAACCGGTG	TNTAGACAAA	AACTTGTCCA	GTTCNCACCC	720
GTINGTTTACC	AANNININAA	TCTCNCNCCC	NGGGTNGGTG	GCNGAACCC	CCNCTGGCTT	780
ACGGGGINCCA	CATCTCTCCC	CCCCCTCCCA	TTAAANACCC	CGNCTCTTTT	TNTCTGNCC	839

(2) INFORMATION FOR SEQ ID NO:563:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 740 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1390RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:563:

GATCAAGTAA TCAATCAGTT AATAATATTA AGAATATAAT ATGTAGACAT TTAGTCTAGT 60
 CTATTAATTA TTAATTATTT TGTAATTTGT TGTTAATTTG TTGATATTTT ATTGATTTTG 120
 TTGACATTTT GTTGACATGT TGATATGTTA TAAAATATAA TTTAATATTA TTTTATATAA 180
 TTATTATTAT TATCTAGTCA TAGACTCATA TAAATATGAA TATATTCCAT TATTAATTGT 240
 TTAGGATAAA CATAAATTAA TATAATAACT TATTTTAAAG TTCAATAAAT ATGTTTCATAT 300
 TTATATGATT AATTCATAAC GTATTGATA TAAATATCTC ATACCCITTT ATGAATTAAT 360
 TAAGCGGTAT TAAATTATTC TGATTGGATT AAGTTATTAT TTAATTTATG TTCCTAACAA 420
 TTAATTGATT CCATAAATAT CGATATTTAT TATTATTTAT TAAAATATTA ATGATAATAT 480
 TGTAATACTT CAATTATTTT ATCAAATGGC AAGTAATCTA TTAATCNTTT AATACGATTG 540
 ATAAGAAAGA AAAGAATATC ATCTATCGTA TAAATATTTT CAAGTATGAC CTCTTCAATA 600
 TAATTAGAAG TTTAAACTTG TAGAGAATTA AGAATTTAAT ATGAGTCTTA CATTAACCT 660
 GATATGAACC TTTAATCTAC TTATTTGTTT AACCGTTGAA GAGAGAATAG TTAATCTNAG 720
 TATNACTTAT ATATTGATAC 740

(2) INFORMATION FOR SEQ ID NO:564:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 773 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1390UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:564:

GATCAAACTA AGAAACCTAA TAAACTAATA GAACCTATTA GATAAATAT AGAAATTTC 60
 CCAAATACAG GTTTTTTAGA ATAAGTTGAT ACAATATGTG ATATTATACC AAATAGTGGT 120
 ACAATTATAA TATATACTTC AGGATGACCA AAGAATCAAA ATAAATGTTG ATATAAAATA 180
 GGATCACCAC CACCTGTGAC TTCAAAGAAT GATGTATTAA AATTTCTATC TATTAATAAT 240
 ATAGTAACAC CAGCTGATAA TACTGGTAAT GATATTAAATA ATATAACAGC AGTAATTAAA 300
 ATTGATCATA GAAATAAAGG TATTTTATGT AAAGTTATAC CATTAGTTCT TATATTTAAA 360
 GCTGTAACAA TAAATTAAT AAGTCCTAAT AATGAAGAAA TAGTAGTTAA ATGTAAAGAG 420
 AAAATAGCTA AATCAACAGA AGCACCAGAA TGTGATTGAA TAGAAGATAA AGGAGGATAA 480
 ACAGTTCAAC CAGTACCTAG ACCAGATTCA ACTATAGTAG ATGTTAATAA ACAAATTAAT 540
 AGTGGTGGTA ATAGTCAAAA TGAAATATTA TTAAATCTAG CAAATGATAT ATCAGAAGCA 600
 CCAATTATTA ATGGTAAATA ATAATTACCA AAACCACCA TTAATATAGG TATTACTAAA 660
 AAGAATACTA TTAAAATAAG ATGTCCAGTA ACTAATACAT TAAATAATTG ATTTTGACCT 720
 TGTAAATATT GTTGACAGGT GCTGATAATT CTATTCTAAT AATAAATGAT ATA 773

(2) INFORMATION FOR SEQ ID NO:565:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1391RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:565:

GATCTTTTTC CTCCAGGTTA TTCCCTTCTT GGACACATTT ACGAAGTGTA TTTTCAAGAC 60
 CTGACTCGCG CATTTAGGTG TTACGTTAAA GCTTTTGAGC TAGATGCOGG CGACCTCGTC 120
 GCTGCTAAAT ACATGGTCCA ATACTATAGT GACCTGTGCA ATTGGCAGGC GGCGGCCAAC 180
 ATCTGTGACC GTGTAATCAA GAATGATATG CATCTCAATT CCGTCAACTG GCGGTACAGA 240
 GTTCTGGGTG TTTATTATTT GGAGCTTCAA CAGGAGGCTG AATCGATCGA ATGGTTCCAA 300
 TCTGCTTTAC GGATTGATTC GTCTGATGTT GAGGCATGGA TAGGCTGGG ACAGGCGTAC 360
 GCGCATGTG GCAGAATCGA AGCTCGATC AAGGTTTTTG AAAGGGCAAT AGAGCTGTCT 420
 CCAGAACATA AGTATGCAGG GTTATTCCTG GCTATATCAT TATGCCAGCT TTCAGAAATC 480
 GAAAAAAGTC TCGAGGCCCT CAGAAAACTT GTGAATAAGT ATCCACAAGA AGCTATCTTC 540
 AAAGAAAGAC TAAGTGCAAC GTTGGTGGAG CATGCTTTGC AGTTCTTCCA CCAAGGTTAC 600
 CTGATAAAG CGGCAACTTG CGCTGCTGAG GTGATATCGA TCATAGAAGG CATTGTATCT 660
 GAACAGGTAG AATATACAAC CAATATGTGG ATTACTTTAT CAAAGGCTTT GAATATTTTT 720
 ATTTCCAGCG GTTCTCAGTT CGACAACTT 749

(2) INFORMATION FOR SEQ ID NO:566:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 767 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1391UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:566:

GATGCCCCG CAGATTGTG AGAACGTGCT TGCCTAGGG TCTCTTACGA CAAAGGACTA 60
 CATGCAGTGG TTGGCTTCG ATGTTTCTGT GAATGATGTG GGTGCATGT TTGTGAAGCT 120
 GGTGAAGTAA GGCTTTCTGG TCCCGCTTTC CAACGTGCAC TACATGCCAC TGGCCGATCT 180
 ATGGGATGTG CTCTACAAGA AGGAATACAA TGCTATTCCA AAGAATTGGA CGTTGTGAGA 240
 TGCCAAGAAA CGTCAGAAA CAAAGGCGAA GACGAAGGTT CAGTTCAATA CGTTGCTGAA 300
 GAATGTGAAA ATGAGCAACG TACTAATGAC TGATATGCAG ACTTCAATGA GACGTGTCCA 360
 AGACAATCTT CCTCTAACAT TTAACCTCGG CCGGTACATG AAGCACCGGC GTTCTCGGCA 420
 GCTGTACAG TTTGCACGTT CCGGTGTGGG GACGTACCA GCCATGATCT ATAAGGTGGC 480
 ACTGAAGATA ACCGAACAAT GTGCCCCGTC GCTTTCAGAT CCGCTATGTG AGACAGGCT 540
 AATGCAGGAA CTGAGGAGC AACTGGCTAT TCAGGAAGAT ATGGCGCTAG ACGATGAGAA 600
 GCTACCGGCG GTTACATTCA ATGCGGTGGA CATATCCAGA AACTTACCAA ATAACATGGA 660
 CCTACGTGGC AACTGACTT CTATGCCAAG AAGATCACCA GAACGTTGCA CGCACCAAGG 720
 TCAATCCCAT AAGCGGNTGA AGGCTGAAGA TGGGATGGCT GTAGCAG 767

(2) INFORMATION FOR SEQ ID NO:567:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1392RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:567:

20	GATCCCCACC ACGTCAACC GGGTCCCCGG CACCACCCGG TTGCTGAGGT ACGGTTGGCA	60
	CGTCAGCAGC AGGTTGCGCG GCATCTCGCC GATCGGTAAG GACTCCGGCA CCTCCTGGAG	120
25	CTTCAGGAAC TGCTGGTCTA CGAAGCGCGA GCTCTCGTGA ACGATCATGT ACGGGTCTTG	180
	GCCGCAAGGG TTCCCCCGCG CGCTGCCATC GTCATTGAG TGGTCTGCCA GGCACGCCCC	240
30	CGGTAGCGCC ACGTTGCTCC CGCAAGCGA CTGGAAGTTG TTGAGGTCCA GCGCGTCTGT	300
	GTGCCCCGAG TTGCGGCACA TCAGCGCAAC GTGAGTCCCA CGTGACGTCA GCACCGACGT	360
35	TGACACCAGC ATCCCGCTCA GCGCAACAG CCGCGAAAG CTCTGTGAGT CCAGCTGCCG	420
	CAGCGCGCTC TCAGCGCGCG CGCTCTGCAG CTCACCTGC ACGCGCGGCA GCGCGCGCGC	480
40	GTCTTCGGCC CGGAGCGCGG CCATCGCGCG CGCTATTTC GTACCGGCT GCTCAAAGAG	540
	GGGCACGTC TCACAGGCT CGTCGCGCAC AGTTTGTA CA GCGCTCGTT GTACCAATCA	600
45	GATGCTCGGT GTTGACGGC AGCGCGTACG CGGCACCAGC AGGTTGTTC GCAACTGCTC	660
	GCGATATAAN NAACCGCGCG TCNAACGAAA CTCNGCACA AANNCNCA AGAGCGCACC	720
50	NCTCCGANC GGTGCTTGGG CCGCCGCTC CTC	753

(2) INFORMATION FOR SEQ ID NO:568:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 752 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1393RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:568:

GATCACGGAT TGCCCCAAGT ANTGGCAAC AGTCGTCAAN TCTGACATAT CTCTTGCAAA 60
 TGCTAGCCTC TGGGGGCTTG AACTAACCAT TACTTCTAAT ACCTGGCTAG CTGCCTCCAA 120
 ATCCGGATCC AAAAAAGCAA TATTATACA TAACTATACA CGAAATCTCA GTTCATGCT 180
 AGCTAGCTCA TCGTATCCGG GACTGGGAGA GGAAGTCAAT GCTGTGGAAC CCTTCGAATA 240
 TGGCAGCGTC GGGATGTTG ACCAAGGACT CGCCTGGGCC AAACATGCGG ATGCCACNTA 300
 GGTGGGTGTC TTTCGCGTTC TGTGTGTTAG TCACGACCTC GATGCGCAA AACTGGCACT 360
 TGAGCAGGCC GTGGAGGGT CGGTGTCTCT CGAAGGTGAA CTTGACCCAC CCATTGACTT 420
 GGGACTTCT AGGGTCTTGT AGTAGGTTGC GTGGGAAGGG CTGTGGCCAG CGTATATGCG 480
 GAGCGTCTCC NANGTGTAGG ACTCATGAC GAAGAGCGAG AAGTACATGG CAAGCTGGAT 540
 GATGTCAACG CGCTTGCTGA AGAAGAGTTC TATGTGTGT GTCTGGGAGC CGTCGCTTTG 600
 CCANAANGTG GCGGGTTAT CATCCNAAGG CGTTTTCAT GGGGTANCCG GCCTTGAANG 660
 AAGAAGGCTT CCANTAGGCC AACNAAGTGA TATCNACTTA CCCTGGTTCT CCAATGTTTG 720
 CAAGCCCNCC TGTATTTCG NCCAGAAAAG AC 752

(2) INFORMATION FOR SEQ ID NO:569:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 773 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1393UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:569:

GATCCAGGAT ATCATGCCCA AAATCCTTGA AGCGCTGCA AAGCGCTCG TGCAAATCAA 60
 GAATCTGCAC ACGGCAGAGA ACTTACTCTT CGTATTTTGC TACCTGACTT CTATTTGATGC 120
 GCGGCAGACA GTGGACTTTC TTTCATCAAC GATCATCGAT GAAGCGGGCC GTACCGCCCT 180
 CCAGCCTATC GTTCGGCGTT GGCTAGAAGC ATTGAGGTT CTCGGGGAG AACATAAAAT 240
 CAAAGAGAAC ATTTTATCCC TTTCGAAGCT TTCTTCTCTT GAGGATCCCC GTATAGCGGG 300
 CATCAAGGTC AATGGGGATC TGATTCCCCA CGATGGGAC ATCATAATCA CCCGCTCAT 360
 GCGCAAGAAA ATGCTGATA AGTACAGCA GATCTCGCG GCGAGAAGA TAGTCAAGCT 420
 CTTTGTTCGA GAACTAGCCT TCCAGCAAAA CCAGCCTGAC CTTGGCCGTT ACCCTAAAGA 480
 CGGGTCTGGC CTTGCTGACC CACATGACTC CGAGGGAGAC TCAGCTGATG AAGACTGGGA 540
 GGATGTGGAT GACATCCTTG ACTACGAAA ATTGCGGGAG TACGGGATG ATAGTGACAT 600
 TGACGACACG GTGACAGCCT TTTATTCACA AGTAACATCG AAGAGGATGT AACCCTCTG 660
 CTTACTCAAT TCTTCAAGGA AGCGGTTGCC AGAAATGCT CTGGCTTCCA GGAGATCTAT 720
 AGCAGGCTCA CTGAACAAGA GAAGAAGAC TATCTGCATG CATGGTATAG GAT 773

(2) INFORMATION FOR SEQ ID NO:570:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 755 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1394RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:570:

GATCTCGACG ATTACCGGT ATGATTATAT CCAGCAACA TGGGCACAG CCGCACACAC 60
 AGACATGATA CTGGTCGGTG ATTGCTGGC AATGTCCAG CTGGGTCATG TGTCCAGGT 120
 GGACCTGGAT CTGCAGGAGT TCCAATACCA CGTCGGGTG GTGTGTACAG CACCAGGCTC 180
 GTCTTTTATA ATTGCAGATA TGCCATATGG TAGCTTTGAG CGAANCATTG AGCAGGGAGT 240
 AGAGACGGCG ATCTGGCTTA TGAAGACATC CAGCAGGGTG GGTGCTGTTA AGCTCGAGGT 300
 TGGGCGCGAA GAAAACGACT ACTGTCTTGA GCTTGCCGCA GAGCTCTGCA GGCGCGGGAT 360
 CCCAGTAATG GGCCATGTCT GGCTGACCCC GCAGGCGATG CATGCATTGG GCGGGTACAA 420
 GGTTCACGGC GCAAAGGACT TGGGCCAGGC GCTGGCGGG TACCACCGGG CTAAGATCT 480
 GCAGGCTGCA GGCTGTTTTT CCATGTCAT CGAATGCATT CCAACTAAAC TAGCCGGTAT 540
 CATAACGAG AAACTCAGTA TACCTACTAT TGGCATTGGC GCGGGCCCC AGACAAGCGG 600
 GCAGGTGCTC GTACAGTGG ATCTGCTGG CATGTTGCCA NGGAAGGCC CAAAATTTTG 660
 TCGNGAATTC CCGGACTTC CNGNGGGAGC CCATANGTTC CTTGTGCCCC CTATGTTGAA 720
 AANGTGOCCA NGGNTCTTC CCNAAAGTNG GGGCA 755

(2) INFORMATION FOR SEQ ID NO:571:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 773 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1394UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:571:

GATCGAACTC CATGAAGGAG CGTAATGGCC TGTGGAGCT GCACCGCACT GGGTGGTAC 60
 ATAGCGGGAT GTAGGAATGC GGGGATAACG ATTCCGAAAA GCTGACTGGG CTGCGOCTCT 120
 AGCTTCAGCT CAAGCTGGCG CAGCAGCGTT GCTATAGGCT GTGTGCGGA CAAGGTGAC 180
 ACTTCAGTTG CAGTAGGAGC AGGTAGCATA CGACTAGTTA TATCGAACTG GTCCCGGTAA 240
 TGAGGATGAG GGTCAATTTC TGGCTCCGAG CGCTGGCTAG CACCACAATT ATCACCAGT 300
 CCATACCTCC ATGCAATTCT GAGATCTTGG CTACGTGCGA CCGGTTTTC ACCCCCTCC 360
 GCTAAGTTTT GCACCGTGAC CTTGATTC TCCTGGGAAA TCGAGATTT CTTTACCTCT 420
 TTACGTGTGC CCTGGAATAT CCCCAGCAGC TCCTTGGCAT ACTGAGTGT GAGCGTGATG 480
 ACCACCACAT GCGTATTCCC TCCCCGCTGT GCGCCGCGAC TTTCGCGCG GTTATGTGCT 540
 GCTCCCTGCG CTGCAAAGAG CTTTCCAAGT ACCGATGCAA AGTCTGTACC CCGTTGTCT 600
 TCACCAGAA GCATCTGGCC CATGGCAAG CCCATATGCC CTAGGAGCCG ATCCATATCT 660
 GCACAAACCG TGGATGTTGT GGGATGCGAA GTAACCGCG ACGGACGCAA GCCCGGATGC 720
 GACTGCCTGC CAGCTCACTG TTGGATGCCA ACCTCTCCAC GCGCTGAA AN 773

(2) INFORMATION FOR SEQ ID NO:572:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 746 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1396RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:572:

GATCAATCAT TCTAGAGCTG GAGCAAAGGA TACCTATAGG CTTGCGCTCGT CATGGCCCC 60
 TTTCATTATT ACATACCCAT CGTTCACAG CGTGTACAT TCTGCCATTC GAGAGCAGGA 120
 CACCCAAGTT TTCAAACAGA ACAGCGCTCGT TCTCTTGGTA AAAGTTGGAC CTTCTAACGG 180
 TGTCTCATC GAAGCCGTCG TCGCCACTGA GGACCTTGAG GCGGTGGAG GTGGCTTTGA 240
 TGTAGTCGTT GAGCATAGGA ACCGGGTCGT CGCAAGCTT ATTGAAAAAT TGGTACTTGT 300
 TGGCTGTGGA GCTGANTGC AGGGGAGAGC AGTTGGTCT TCTTTTCGAG GGTTCGCAGC 360
 TCGGCTCGA GCTGGCTGGT GACTGTGTG AATTCTGTGA GCAGCAGCAT CCCCTGTTGG 420
 GCAAGGGAGT TTTGGGCGGA CGCCGGTTCG GGATCTTAA CCGGACACG TGGCAGCGG 480
 ATGTGAAGA CCAGTTCGCC GTAGGTGGAG GTCTGTGCA OCTGGATGGT GTAGTGAATG 540
 CGCACGGGGG GGATGGGCTT GATGTGGCG TTGACACTG GGCAGCTCG GTGAGCTTGA 600
 GGTACTTGG AGGCTCTCG GCGGCGGCA GGAACCTAAC GATCATGGCG TCACCTTGA 660
 TGACAACTTG TCGTCTCTT GGTGCTCTT GCGTTGCCG CTNGGGTCTG CGACNAAGAA 720
 CTCTTGAACA GGATTCTTGT TNAACC 746

(2) INFORMATION FOR SEQ ID NO:573:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 772 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1396UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:573:

GATCGGTTAC TTAGAGGGAG TGCAAGACCT GGCTGACTT ATCTTAGGGT TATTAGCTAT 60
 GACGGGTGIG TTCGATTTC TGCCAAGGG TTTAGATGCC ATCAACTCCC TGAATTGCCA 120
 CTACTTTGCG TTGTGGTGG ATGAACAGAA GGCCATGACT TTGTGTGAGC GTATTAGATA 180
 CTACAATTGG ACGTTTGAGG GGATCTGTGT GGTCTGCTC GGGCTGATGT ATGCCGTGTA 240
 CGTGGGGGGG ACCAACTAA ACGAGCGGGG CTCGGACCGT CTGTTGGAAC AGCTGAACAA 300
 GTCTTCTCG GAGGAGCTGC AGTTTGOGCG CGTGGGTTTT TGTGCCCCGG ACAAGGGAGG 360
 GCTGCCATAC ATCAGCGATC GGAATGGCAC ATGTGCACC GCATTGCTA CGGGGCGCAC 420
 GTGTGTGAC CATATTGTGG TGAAGGCTCA CTACCCGGCG CGCTCAACC CTGTGGGGCT 480
 GCTGTGTGAG AAGCTGCTGG GGATGTTCTT CCGCAGGTG GTGGACCGCA CGGCGATGAG 540
 TTTGTGCAGG TGAAGGTGAC CCCCACGGG AAGTGGACGA AGGACGAGAA CAGCGGGTT 600
 CAGCGACGG AGGACGGCT GAACCGGTC CGGTTCATCG CGTCGATGT CCACAAGAAC 660
 GGGATGAACG ACTGCGCGG CAAGAATAC TTCTCTCTT TGAATCAGC GTCCGANGGC 720
 GAAACTCTCC CATGGAANTA CTCTTCATGT CCGANAACAA CCACTGAACA AC 772

(2) INFORMATION FOR SEQ ID NO:574:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1397RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:574:

20	GATCCATTA TTCTACAGCA AATATTACAC GGC GGCGGA CCTCGACAA TGCAGAAATC	60
	GATGCATACA CAAAACATAT TACTACAAAG CTTTCAAAG GTGTCTCTCC CACAGACGCA	120
25	TTTCTAGGCG CACTCAAGGT TTACATTCTC AATTGCAGTT TGAAACGTTT ACGCTTGCAG	180
	AAAGCACACG TTATACTTCT TGATAAAATT GCGATATTC TCAATACAAA TGIGGTCCAT	240
30	GTGTCTGTGG AATCGATACA TACGATACTG AAAAGTTTAG CTGAATATTT TATTGATGCC	300
	AAGGAATATA AGCGACTCAA CAACGTGTC AATATTTTCAT TCAAGCATA TGTGATGTAT	360
35	AAGCATGAAA GCCTTATACG ACTTGCAGCA GATCTCGAAT TATTTCTCTT TATGTCCGTC	420
	AAACAGGACT GGTCAATGTT TACCAAGTTC GAGAAGTTTA TTTCTGTGCG TTCAGGAGAC	480
40	ATCTCAGTAT CGCTCTTTGA ACAGTGTTC AATGTTTATG TTATGTTGCG GGATCCCTCA	540
	TTGGCCGGCC TATGGGATGT CTGCTTGAAC AAGTCGTTGA AGTGTTCCTA GAAATGGGA	600
45	CTAACTAGTT ACACAGACTT TAAGGCATCG TCCGAGCCAA TGCTAGTGTT GGTATACAGT	660
	GGATTTGTTT CTGATATTTT TACAATACCT TATAATGGCT GGGCTCGCT ATCGAAAATG	720
50	TTATTCATGG CATTAAATGG GGTCTATAAA TTG	753

(2) INFORMATION FOR SEQ ID NO:575:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 767 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1397UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:575:

GATCTGAAAT ATTGCTCACC CCCACCGTGA CCTATGTAGA TGAACGTGCT GGAGTTCGTG 60
 ATCATCTCGA CGAATTCATC CTCCTCTGOC TTGAGCCAG TTAATATCCG TGTGAACCC 120
 AAGTCGCAAC AAAGTCTGGT AAAATGTTCT TTAAAGCGCA GTTCAGTCCT GGTCAAGTCC 180
 CCATCGGGGT TTAAAACAAT GGAAAGTCTG CTGTCTAGGT TAATCTTTGG AGAGATCTCT 240
 CCTCTGAATT TAGTTAGTAG CTCTGAAGG AAATTTATGG ATGGTACGGG GCTCACAGAA 300
 GCATCGGAAA ATATACTGAG AGATTCCCAT GGAACCAAC TGCAATCGGA GCTTATTACC 360
 AGAAACGTGT GTCCTAACCT TGGCGCTCT GGTGCCTTG CATGATAGTC GTGAATTAGT 420
 TCCTCAAGTT GAATATGTAT GAGATGAACG TCAATCTCAT CATAGGCATT TTCTTCGCCA 480
 TGGAAAAGCA ATATGTCAAA GATGAAGTAT ATCAAGTCCT CCATGAATTC CACCTTCTTT 540
 TCGTGAGGAA GGGCATCCCA ATCCACCTTT AAAAATAACT CTAATATGAA ATCGTCCACC 600
 TGTAGAACA TAGACGGGTT TCCATCTGT CTCTTGTG GAAGATTGT TGTAAACCT 660
 TTGAAATCCT AATTGAATA NTGCAAAATG GTTTTATCCA ACTGTTTTTG GTTGAAGAAA 720
 CCGCNGAATC CCATATCCAG ATCTCATGGG GGCNTGNAT CTACATC 767

(2) INFORMATION FOR SEQ ID NO:576:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 774 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1398UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:576:

GATCGCTCTT CTTTGAAAGA ATATGTAGGC ACCCTCTCCT ATCTTGCGCC GGAATGCGT	60
CGCTGCAAAG ATATGAAGAC GATGACACCT GCAGAAGCAG AAAGAATCCC AGAGTACGGT	120
GCAGCAGTCG ACATATGGGC TCTTGGTGTC CTCTGCTACT TCATGATGAG TGGCTATATG	180
CCGTTGATT GCGAAGACGA TGCCGAACT AGTGACTGCA TCTTGAGGG TGAATATTAC	240
GTGACGAGG AAGCTGCTGC CAACGCCAAT GAGAGCTATA ACAGCTCTG GAACTTCATG	300
CAGCGCTGCT TTACGATGGA TGATAATATC CGCCCGCGG CACAAGAACT CATGGGCCAC	360
GCATTCATGC GGAATACCTT CCAATGGCT GCGGCCAATG ACTTGCATC TATCCGCTA	420
CTGAGAGAT CAAGATCTC GAACTCCCTG CACCCTTAG CCGCGCATC ACGCGCACG	480
TTTATCTCGT CTGGCGTCC GGTTATTAAC GAGCGCCCTG TGCCAAGTGT TGGCTCGGT	540
GAGCGCAATT TCGATAAGTT GCGGATACT TTGCGGAAGA CTTTCCCTC ACTTCGCTTG	600
AACCTATGCG CTTTGTGCT CAAGCGAATA CTCTAATCC TAATAAGAAG AACTCTACTT	660
TTGTCTTGA GCGAGCTCTT CCCACGGGA GTCTAATGAA TGGTGTTTC ACGTCACAC	720
GGAAAGTAAT CCAACCTCAA TACGCCAGTC CTTTGGCGCA GAAGCTCGG CCAA	774

(2) INFORMATION FOR SEQ ID NO:577:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 756 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1399RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:577:

GATCAITACT CGCAGAACT GAGATGTTAG GGGACCAAA CTCCTTTCTT TGATGAGATA 60
 CGGGAGGATG CCTCGGAGA ACCAGAACAA TGCAGCAAAA GGCACGAAGA ATGCCAAOGA 120
 GAAAAGCAG CATCGCTGCA TATGCAGTCC CACCCCATAG TAGTTCTCTG CCGCATATGC 180
 CTGGGGGCAG AGTGTATCTA AGCTTGTTGA AATACCTCN AATATTGCGA AAGTGATATT 240
 GGTGTCATG GAAGCCAGG AAACCGCTGC CAACTCATTC TTTCACAGGT GACCCACAAC 300
 TAATGCACAT ACAACCGGAA ACATCTGCTC AAGCAGAAAT GTAAATATGA GGGCCACOGA 360
 GTAACACAGA AGCACCAGAC TCTCGACTT CACGGTGGCT GGTTCGTCTG CGAGATCTTC 420
 GGACCTTCG AACGGCTGG AGGGGCGGCC CTGCTGCCA ATGGAGTAGT AAGACAGCTT 480
 TCGGGGCGT AGAACACGCA CTTCTGCTT GTCCGAGGC AGTTGCTGCT TAACCCGATG 540
 CATGAAGTGA GTGTAGTGCA CCATGTCTGG CGCGGGGCC TCACATCGA CGGCCAGAT 600
 GTCTCGGG CTGCGTTAA CAGTCAGTA CCGCGTTG TGCTCTCCA ATATCCAGTC 660
 TACATTCACT GCAGAGGACG GCGGCTCA CTCGAAGCG TCGACGGCAG CGAGACTGTC 720
 CCGACAGCT CTCTCGTC AAGCAGCCC TCTCC 756

(2) INFORMATION FOR SEQ ID NO:578:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 775 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1399UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:578:

GATCTTGTTAC GACGGCCGCG GAAGAATCGG TGCCATCGTT TCCAACAGAC AGTTCCAGTT 60
 TGAAGGCCCA CCACCACAGG CTGGCTCCAT CTACGCCAAG GGTGGGGCCC TAACCGAGGA 120
 GGGCAACTTG GGCCTAGGTG ACAGCGACGT CTTCTACCAN TGTCTGTCCG GCAACTTCTA 180
 CAACCTATAT GACCAGAACA TGGCACCACA ATGCTCTCCA ATTAAGCTCC AGGCAATCAA 240
 ATTGGTCGAC AACTGCTGAA CAGCCACAAA GGTATATAGT GCATATATTG TATTAGTTAA 300
 ACTAGGAATT TTGTGTGGCA GCTAGACTGC OCTACGTGGA TTTCTCGTTG CGGATCCTGG 360
 GCTGCCGCTG GCGCTGACGC ACAAGAGCAA CTGCACAAC ACTGGGGTAC CGCATGCTTC 420
 CTTGTGCATT TTGCGCGCGG TGGACGTGCG TGACGTCAGC GTGGCAAGTG ATCATAATAT 480
 GTCCCGGGCC AGGCCCTAT TGTGGCGGAC AGGAATGCAT GCGGAGGTGC AAAATGGTGC 540
 AAAATGGTGC CCGATGCAAC TCTAGGCCCG AGCTGAAACA AGATTACCTG GGCAGCCTAA 600
 ATTTGCAGCG GCTGCTGGC AGCCACATG TGTATTGTGC TTTTACAGTT CTTGCTGGCG 660
 CTGTCCAATA CAGCCGATCG CGACTTTGCT GCGCACGGGC CACTAGGCTT GCGGACAAA 720
 AACTGCAGCG GCGCGGCGT GAATGGCGCC GGACGATGTG CTGCCGGGA ATTCC 775

(2) INFORMATION FOR SEQ ID NO:579:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 757 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1400RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:579:

GATCCTGTCA AATATGGCCA ATACCAAGCA GCCGGTGTG GTAGAGCATG TGGTTGA ACT 60
 CAAACCTCA AGCAGCCGGG TTTTGGACTG TGCACAGGAG ATATTGTCTC CATTTCCACA 120
 GTCCAAGAAC AAGCCCAGGC CGGGGGACTG GAATTGTCCC TCTTGTGGTT TTCTAACTT 180
 CCAACGGGCG ATTGCATGCT TCCGGTGCTC CTTCACAGCC ACTAGTCAG TGAAGGTCAG 240
 CAAGCTGTAC AAGCCACAGC AGCAACGCCA TTATCAGAAC CCACACCAGG TOCCATCGAA 300
 ACAACAGGTG CAGCAACCGC AGATTACGA CCAAGACACA CAGCAGCATT CTCAACATTT 360
 CAACATCCAG CAGATGCCGC AGCAACTCCA AATGCAACAG CAAGGCCAGG GTACCGTTCA 420
 AGGGGGCAGT AGCATGCAGC AGTACAAGCA CAGGCTCAG CACGGCTTAC AGCGTATCT 480
 TGGCTGCTAC CAACAGCAGC AGCCGAAGTC ACAGCAGCAG TACCAGATGA ATCAGCAACA 540
 GGTGCAGATG ATCGCTGGCG ACGCCAGAGA CGGTATAACC GGTACAACAA AATGGTGCAG 600
 GGCAACGGGC AGAACGGTAA TTCTTGTAAG GAAATGGCTC CCTGGGCAGT AGCAACGTGC 660
 CCTTCAGAGC TGGGACTGG AAGTGCTTGA ACTGTTCTTA CCATAATTTT GCCAAGAATA 720
 TTGTTGTCT GGGTTGTGGT AATCCAAAGA CGGCAT 757

(2) INFORMATION FOR SEQ ID NO:580:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 775 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1400UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:580:

GATCGGGGGG TACTTCAGGT CATTCTCTCT CACCACCACC ACCAGCTGCC CGGGCCCCGG 60
 CTCATACAGC TGGTACGCCA CGCGAACATG TCGCTCCGCC TCGGGCACAT CGCCTCGTA 120
 GAACTGATCC GCAGCCACCA GCGCGTCCG CCACTCCCG CGCGCGCTT GGTTCAGGT 180
 CCCCCTAGC TCGCGACCG GTGTGAGCTG CACCATCTCA GGGGGCATCA GCCAGCTCAG 240
 CGTCGATGCC ACCACCAGTG CGGCGAGTA CCGCTCGCG AGCTTCCGC TGAACTCGAC 300
 CTGCGGCTCG GCCCCGCGA GAAGCGAATG CGGGTCATA GGGCGAGGC AGTCCAGTTG 360
 GTGTCTGGA AGACGCTCAG ATTGCCATTG TTTGAAGTGT CCACAGTAG AACTTGCCT 420
 ATGCTACCTC CGCGCGGCT GCGGACCCC ATAGTCACAT ACTATCATCC TCACACAACT 480
 CAGTACTTGC TCGAGTCCC AACTCAAGCT AACGAGTACC AGACTTGGTT TTGGCTGTTG 540
 CTGTATGCAT TCCAATGGTT TGTATAATCG AAAAATTGTT CAGTTGCTCA GCACATCTCA 600
 TACAAGCAGG AACAAGAGCG AGTCGGAGC CAAAGACCTC TTAGGCATTA GTATCGGTAG 660
 CTAGGATGTC GGCAGAACAG TTGCACAAG TACACGAGT TCGAGGCGA ATTGGAGGAG 720
 CTGGTGGTGA CAGACAGAAG CTGGAGAGC AGCTGCAGGA GAACAAGATC GTGAA 775

(2) INFORMATION FOR SEQ ID NO:581:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1401RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:581:

GATCTTGTTG TTGGCAATAC CCTGTCTTAC GTTGAAAAGA AGTGTCCTG AGGTGTCCAT 60
 CAACAAAAAT ATTACCAGTT ACAACACCCA CCCGAACCTT ATTGGCCAAA ACATCCAACA 120
 ATGTCTGCTT ACCTGCACCT GAATAACCCA TCAGAGCAGT CAAAGTCCCA GGCTTTACCC 180
 AACCATCCAC GTTGGTTAGG ATCTCTCTGG TTTCATTCTT AATCTGTATA TCATAGCAGA 240
 CATCTGCCA GTGGAAAATG CTATCAGAAC CAATTCCTCTG AATAAGTTG CGGATTGGT 300
 CACTTCTAT AGTACTAGAT TCCTTTCTCTG GTGCATTACC AAATCTATG TCGCAGTTGA 360
 TGGCCTTTT ATTTTGCTTT TTATTTTCT TCAAAGTTGA CCTAGGAAT ACAGCCATTT 420
 CACCTTTTIG CATCCCACTT TTATTATACT CAATTAAGAT CAGATAACA CCTAAGAAGA 480
 AAAATGCATA AGCAAGAAG ATCCCCAAT TCATCCACTT GTTTTGGTG TTGTAACCAT 540
 AAGCAAATC TATGTAACGG GTCCATTTA CAAAGCTCTG ACCAGGAAT GCTUCCACCG 600
 ACAAGCAGAC TTTATTUGAA ATAGGAATC CCTCATAGAA ACTAOCATG GGTACCATTC 660
 GAGAACATTC GAATATCGT CGTCAAATT CATTCGCAAC CATGGCTTC ATGATGCGTG 720
 CGA 723

(2) INFORMATION FOR SEQ ID NO:582:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1401UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:582:

GATCTGCTGA GATTAAGCCT TCGTGTCTG ATTGTGTTTC TATTTGGAAG TCTGCAGGAG 60
 CAGGCTTTGA AATAGAGTTC TTATGTTATT TAACGTCCGG GTAACGAGTA TACAAGCATA 120
 TGTTTATGCG TATCTAGTT ATATGCTTTG AAGAGGTGGT CTGCAGCTGG CGGTCTATTT 180
 TATTTTATTT TTTCATTTC CTAAGACTTT ACATTTTTTT TTTAAATTAT TTTTTTTGGC 240
 CTAAGACTGT GAACAGCGAT TTAGAAAAA AGCGAAAACG TTCAGGAGGC CTCAGCTACA 300
 TGATATCCCA GGCTTTGTAT TTGTGAGACT GCACTCCCGG GCTAGGTGTG GACCAAGAGT 360
 TGACGTGGCG CGCGGTGGCG ATTGCAGGGC TTCACAGTGT GGTTAATTTA ACAATTTATA 420
 GAGAATAGAG ATGCCCCGAC TTAATCAACT GTGGGGGGCG CCAAATCGA TTTTTTGGAG 480
 TTTGTGATT TTCACAGCAG ACGAGAAAGC AGGACAGGCG GCGCGCGCCA GGCAGTCCCC 540
 OCTGCAGGCG TGAGCGGACA CAGAGAGAAA ATACAGGAG ATGAATACTG ATAATCTACA 600
 GATTTCAATG ATATCTCATT GATCCCTGA TTATCAATGA AAGTACCCAA TGATCCATGA 660
 AGCCAGTAGA TGTAGTATA TTTATTAATA TATATCCACC TTTGTTATCC AATCTCTGTT 720

(2) INFORMATION FOR SEQ ID NO:583:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1402RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:583:

20	GATCAGGAGC CCATCAAGGC GCCTAAAAAT CGCATCCCCG CTGTGGTTT TCCCGACTAC	60
	GGCGCTGTTG CTTGAAATAC AATTACTGCT GTAGTTCCTC CTGTGATGCT GGTGAAATG	120
25	TTGGGGGGCG AAAGGGTCTG CCTGCTGAAA GGAGCTGAAA GGTGGTGACG TGGTTCCGGG	180
	ACTACTAGCG TCTGCAACCG TCTTTGAGCC CAAAACACGG AGGCCGATTA CATTCCTCGT	240
30	AGCGGGGGCG AGGGTAGAAG ACCTCCCCTG ATGGGAGTTC ATGCTCTTAC TCGGGGTGTG	300
	GTAATAGTAC TCACCACCAC TGCTGACGA AAGCGGAGCA GGGGGTAGCG CTGCCATCTG	360
35	TTGTTCCTC CTGCGAGTG CTTCTAACTG TGCCAAACGC AGCTGTGCTT GTTGCTCTG	420
	GTGCGGTCC ACCTTGGCCA AGAGCTCCG ATCATCATGC AACATCTCCA GCACTCCAA	480
40	TTTGGCCCT AAGCCAAGTG ACTGGCTTC CAGGTGTCC ATTTCTCGAT GCTTGATCAT	540
	GACCTGCAGA TGGAGCTGCT CCAGAATCTC GCGCTTCGCT ATCTCGTATT TTATCCGCTC	600
45	CGTCTCTCG CTCTACGCC CCAGCGGCC CTCTCCGCA CGCAGCCGC TGTATTGCTC	660
	GTGCCCCAGG GAAAGCTGT GCGCGACTT CGGTGTGCGC AACTGGTAAT ATGCCGCC	719

(2) INFORMATION FOR SEQ ID NO:584:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1402UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:584:

GATCAAGTTA TCGTTGATCA AAGGTCAT	60
AT ACCCTTTTCT CTAAGCATGT GCCAGGTTTC	
CTTCGGGGCG CGTAGGTATG GTTTCGGTA	120
CAACGCAATG AAGCAGTAGG CATAGTGGTT	
GAAGTACTCT GCCATCCATT CAAAGACACC	180
AACAAGGCA TCCAAGATTA ACCACAAGCA	
CTGCATCCAC CCACTGTGG ATATCCCGGA	240
AATAATCCCA TTGGGAAGCA GCTGAATAAT	
CTGCCGAGT AGTTGAATCA GAGACACAAT	300
CAGCGAGCCA AAGCAAATGG ACCCAAAGGA	
AGTGGTCAAC GCTCTCTTTA ATGAGCCAAA	360
AGCTGGCCAA CGTGGCATGC CTGGTCCGA	
CTTCGAAAAA TAGTACCAGC AGCCGTAGAT	420
GCCCGGATG GTGCAATGAA TCACATTCT	
GATGACCTCA GAAATGTAGA ATCCACAGAA	480
GAAAAGAGT ACCAAAATAC CAATTAACTT	
TCCAGGTGAG CAAGAGCCAC CAGATACATC	540
GCAGCCACCA TTCTGGCTCT TCGGGTCATA	
CTTTATGTAG GTGCAACCA AACTACAGA	600
GAATATGACA GAGAAAGCAG CCGACACAAT	
GGTACCTAAT AATGACACAA GCCACGTCG	660
TGGATGTTTC TTCATACTG ACATGACCGT	
ACCAAGACA GCGACACTAA ATGGAATCTT	720
TGAGCGCATT AACCACTAGC ACACCGCCGT	
CAGAAT	726

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(2) INFORMATION FOR SEQ ID NO:585:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 731 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1403RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:585:

GATCCGTTCC TTGAGAAGCA CCTAAAGCCT GAACTCCTGG CAGAAGCGAT CAAGGGAACC	60
TCTTGGGAGG GTAAAGTTAG TATTAACCTG GTAGACGGAT TCGACCACTC GTATTACTTC	120
GTCAGCACGT TCGTGCCGGA ACACGCCAAG TACCATGCAG AAAAGTTGGG TCTAGTTTGA	180
GATTTGACGT TCGCCCTGTT AATTGGTATA TACTTACATA TTTAGTCATA TGACGCCCTC	240
AAGTACTCTG ATTCTGCATT ATAAGTGCAG CGAATGCCA GCGTCCGGCA GTAATGCCAA	300
CGCAAACCTGA ATTTGCCGGT AGTTCAACCT TGGCCGGTTG CAGCAGCGT ATGCTCCGAG	360
CAGACTCAAA CGTCGCTATT TGGCGGGTAT CTACAGCCTC GTGGGGATCT CCTGCCCAA	420
GACAGCCACA GATATCACTC TCCAGCCCC AGGAGTAGAG TTCACCTTTG TCGGTTAGAG	480
CTAGGTTGTG GTAGTCTCCC GCAGATACAG CAATAAACTT CTGGCCTTGT TCCAAATTCA	540
TCTTCATGAA TGAGTCTCG ACGATATCAC CATTATTCAC CTTCAGGGTG TATGTGCTAT	600
TCTCGGTACA TAAAACCACT GTCATGCAAG ATGCCTCAAT CTTGGTTTAA CCGTCCATCA	660
AATGGCAAAT CAACGGTTTT TGAAACGCCA TGAGTGTATA TCCACAGTTT GCGGCCATTG	720
TTAGTAATGT A	731

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(2) INFORMATION FOR SEQ ID NO:586:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 717 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1403UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:586:

20

GATCTCAATA TCAACCAACT TGTGACGTGG CTTAAACAC CATATGCGGA GGACATTATG 60

TCCATCACCG TGTACAAGGA CAATGTTTTT GCCACGCACA AGCAGGGCAT TACCGGGTTC 120

CACCAAGGGA ACGTGAACCT CTGGAATGCT CACCAGGGAC TGTCTTTGAG TAGCGAAATA 180

25

TTGGCAAGA GCTGTACCAG TAATCGTATA GATCGGATGG TTAAGGCGG AAATGATGGG 240

TCATTAGGGT TGTGGAATAT TAACGAATGG CTGAACGGTA CAGCGTCCC GGGTGGATCA 300

30

GCCCCGACCG AAGAACAATC GCTTCCTCTT GCGAGCGGC GAAATCTTG GACCGAGTAT 360

CAACAAATCC AGTTAGATAA CGATCACATG ATTGCAACAC TCGCGGAATT CATTAGTTAC 420

35

CAGACTGTTT CCCAACTCCC AGAGCCCCAA AATATCATCG ATTGCGGTAG GTGTGGAAC 480

TTCCTGAAA ATCTCTTCAC TAAGCTGGT GCTAACCATT GTGGCTTAT ACCTGTCAGT 540

40

ACAGGCAGCA ACCCGGTGGT TCTCGGCAG TTCAAGGCA ATGCAGCGC GCCCAAACGC 600

ATACTATGGT ATGGCCACTA CGATGTGATA TCCCGGACC ACCGTGGCAG TGGGACAACG 660

45

ACCTTCACG CTCACITGCG AAAATGGGTA TCTTAAGGA AGAGCGGTGT TGATAAC 717

(2) INFORMATION FOR SEQ ID NO:587:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1404RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:587:

15	GATCTGCAAC GTTACTGATT ATCCTGTAAG CCCTCTTTTG GGTAAAAACA TCCTGTGAGT	60
	TAACAGTGGT GTTGAAGATA GAAAATAAAG CAGTGTATGA TGATGCTGGA ACAACCGTGG	120
20	ACATAACCAC CACAAGATCT AGAAGTGIGG CACTCATTIT TGGCTGGCCC TTCACAGGTT	180
	GGCTAGAGCG CTCCTTATCC ATGGCATCTT TTAGTAATGC GCATACGTTA TCAAACGTGT	240
25	TAGACAGGTT TTCCGCAGAA GTAATTTTCA AGTATGCTC GATGGTTTCC AAAATATAGC	300
	TCCGAGGGTT GGGTGCAGTC TGGTGTAGA CATTGAAAAG AACGCCAAC ATATTGGGCG	360
30	ATTCTGCGA GAGGTATCT ATGTTTTTCT CCGCTTCTGT CGGCGGAAT TGCTGTCCA	420
	TAATAATGTC GTCTTATAC GCACCATCTC TGTATAGAAG ATTACTTGTG ACCAAGACCT	480
35	TCAATCCATT GCATATGACA GTACGCAGTT CAATTCTGGA ATAAAGTAGG GACGCTAACT	540
	CTGCAGCAA CTATCCGTG AATACATGT TTAGATCTTT TGGAAGAAG CAGAACTGAG	600
40	GGAGGTAGA CCACAATTGG TCAACAACAG TCTGAAGTAA TGTGCACTGG ATAGACTCCT	660
	TATCCAGTTT CTCAATGGTG GACTCGAAAT GACGAATGGT AGGAATAAAT	710

(2) INFORMATION FOR SEQ ID NO:588:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1404UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:588:

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GATCTTCAGC AAGATCAGCA CCACTTGACG CACTACAAGA AGTACCGGCA CTGGCGGTGG      60
CAGGCCAAGC GCAGGCTGGC CGGCTGOGAG TCAGGAAAAG TCGGAGCAGG TCGTACAGGA      120
GCCCAGAAAC GCCAGCGCGC TGGCGAAGCT GGGCGACGGC CTGACGGTGA CCGCGCTGAC      180
GGCAAGATG AGCTACTACC GGCAGCTCCA GGAAGCGTG AGCTOGTTGC TCAGTTCTGT      240
GTGCAACTA ACGACGTCCA CCCGGGCGCC AGAATGCGAC TTCACTGAGC AGTTCATCAC      300
CTTACTCGTG AACACCTACC ACGAGATGTG TCTGGATCCA ACCGTCACAC CGTTGACAA      360
GACTAACCAG CCATCTGCTT TTCTCAACAA GGTAGCGCGT GCTGCGGTGG AGCGTTCTGA      420
GCAGCAGAGC ATGCCCATCG GACGTCCGGC CGATAAATGG TGTGTGACCT GCACGGGGAA      480
GGGCTTCTA CAGGAAATAA AGCGGGAGAC CGAGGACGTT CCACAGGGGT CCGTGGGCTC      540
GGTGGCGTGT TOCATGAACC ACGGCACCGT ACAGCGGAT CTAAGCTCCG CTTTTGCAGA      600
GGAGGGCGAT TTCTTCTACT GGGATCCGGA CTTCCAACTG TTCCAAGGCA TCACGGCAAA      660
ACTTCTAACC GACACTGGAG ACATCTCGGG CAAAATACC CCATGTCCTT GGATC      715

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(2) INFORMATION FOR SEQ ID NO:589:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 729 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1405RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:589:

10	GATCTTTCAT ACTTTGGGT TCGTGTATA TAACTAAGAT TGGACAGAAC TGCAAGGGCC	60
	ACAGAGGAAG AGCTGCTGCA TTGCACATTA GGCAGGAACA GCGAATGTCT ACAAATGCAC	120
15	ACTACACACT ACGGCTCTCA GCGATCCCA ATCTCAGATG CGCACAGCAA GGGACCCAGT	180
	TCTTTGCCCA TGCCGCTGTA CTCGAGGGG GCGGAGATG GGCTGCTAAC CATTAAATGG	240
20	AGCGCTGTGG GCTGGCTGT GGGCCCCCAG CCGTGATAC CTCACCTCAT GCACCAGGTG	300
	GCGGTGACA AGCAGCTCA TATCATGCCA GGCTGTACG CGCTGGACA GAGCTGGCC	360
25	CAGGTACGG CGATTATGG CGAGTAGCG ATGCTGAAGA AGTCGATAIT CCAGTGGCTG	420
	AACGGCGAGT TGACGACGA GGAATACAAC AGCATCTACC AACATTTGAG TCAACTGCTG	480
30	GGTCCCTCC CACCGCCCGT CGAGCCATCT GCAGGCAGC CCCAGCTGG ACTGCCGTGG	540
	ATATCTCAA TTATGCCGG AACAGAGCC CAGGAAGTCC AACGTACCTT CATCATAGCA	600
35	TCCTCGAGT CACAGCAGG CCAGCCGTAC ATCTGCCCG CGTTAGCTC GACAATGTCT	660
	ACGCACCCGC TTTCACCCG CATGTGGTA GCCAAACCGA ACTACTCGT GAGCACCAAG	720
40	AAGAATGTT	729

(2) INFORMATION FOR SEQ ID NO:590:

45	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 715 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
50	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

55	(vi) ORIGINAL SOURCE:
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(A) ORGANISM: PAG1405UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:590:

10 GATCCAAATA ACACCACGGT TTTCATCGGC GGGTGTCTTT CGCTCGTGAC TGAGGATGAG 60
 CTACGGGCTT ACTTCCAGCC ATTGGGACAG ATAGTCTACG TGAAATCCC GGTCGGCAA 120
 15 GGATCGCGCT TTGTCCAGTA CGTGATCGC AGTTGGGCAG AGAACCGGAT CCGCAAGATG 180
 CAAGGATTTC CAATTGGTAA TTGAGGGTG CGGCTCTCAT GGGGCAGGAG CGCAAAGCAA 240
 20 ACAGCCGCTA TGCAGCAGGC GTTTGCCATA GCACTACAGC AGCAGCAGCA GCAACAGCAG 300
 CAGCAGCAGC AAGCCCGCCC GCAGCATTCG CAGCAACATC AGTATCAGCA TCAACAGCAT 360
 25 CAACAGCAGC CTCAACATGT CATTTCTGCA CAGCGGTTCG TGCAGCAGCA ATTGCAACTA 420
 CAATTTCCCT ATCAGCATCA ACGTCCATG CGCAGGCTT ACGGTTACAC ATTGGACTCG 480
 30 TTGAGGGCA CCGGTTGAA ACATGTTCCA ATGCAGGGTT TTCTTTCCGG TAATATCGGC 540
 TTCCAACCTT CTACGGCAAT TGATAGCTCT CCAGCAACGA CCTTGCTTCC CAACCTTTCT 600
 35 TCGTTGGACT ACTCTGGGTT TCCACCTTCC ACGTCAGCGT TCACTTTTCA CCCACGAAC 660
 CTTTAGGCAC AGCTTTCACA ACATGGCCTA GATTCTCAAC AATGGCAGCG TGTCC 715

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(2) INFORMATION FOR SEQ ID NO:591:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 699 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1406RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:591:

5
 GATCTCCTTC CAGTGACGCT GATGCACAAC TGCGGACCTC AGCCCCGGTG CCTCAGTGA 60
 10
 CCACAGTGA CATTITCTCA GTTAGCGCTC GTTTAGCTTA GCTATACGAG GGATGGCACC 120
 ACTTAGGCGC TGCTGGCGAA CCAGATACGA TGAAGCCGCC CAAATTGAT AGAATGCTGC 180
 15
 CTCGCTGAGC CGCCGTCATA GGGAAACGAC CAAAGGTTC GTCTGCCGA TCGTATGTAT 240
 GTGCTGTGT ACGAGGACCG AAAAGTTGAC TTTTAACGAA GTAGATTTT TTATTAGATA 300
 20
 TTTAAGCAG TATGCGTAA CGAGCAGCTT GCAAGCGTA TACCAAGGCT CTGTGCGCTT 360
 ATCATTAGCA GGGCGACATG TCAGAATCCT TGCTACAGAC AGTGGTGGCG TACGTGGAGT 420
 25
 TGGTCTGCA CCACTTCATG GCGTTGTGCT GGACGCAGCA GCTGTCCATA GTAATAGTGG 480
 CACCATTCAT ATACTCGCTG GTGTGGCAGA CGTTATATT ATTCAAGGAG GATAGAGTAC 540
 30
 CGCTAGTGCC GTTCATGGTA CCTGGGTGG GTTCGGCGCT CGCGTATGG AGGGCTCGT 600
 ACGAGTTTTT TGGCAAGTGC AGCAGAAGTA TGGGATGTG TTTGGGTTC TGCTGCTGG 660
 35
 GCGTGTGATG ACGGTGTATC TGGGGAAGAA GGGCCACGA 699

(2) INFORMATION FOR SEQ ID NO:592:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 709 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1406UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:592:

5 GATTTTCATT AGAAGCGGCG GATTAGTCAA AAAGTGGCGG AATGTTCCAT CCACTAGGCC 60
 ATCTGCCTTC ACCCAGCGAT TGCAAATGCA GACAAGGTTT ATTAGAATTA TACCGATTGC 120
 10 CCAAACGTGC CCGCAGCAG TAGGAGCTCG GAGCTCAGCA CCGAGCGATC CCGGCTCGGG 180
 TGCCATGTAG TAAGACCAGC CTACGCAGAC ATTGGGGGCG AGCTCCGGCA CCGGTGTGGC 240
 15 CAGCCCCGAA TGCATACAT GTACGTGTGA CCATTGTGCC AGAAGAATGT TCTCCGGCTT 300
 TAGGTCCGAA TGATAGAGCG CGAGTCGGTG GCAGTAGAAA ATAACTCGC ACAGCTGCAG 360
 20 GAAGACCTTC TTAATCAGTA GGCATCCTT AGCAAAGACT TGCTGTTGA CAATGGCTGA 420
 GAAAAGGTGC CAGGTGATGT AATCCATAAC AATAAATGTT GCCAGGCTTG ACTCCATCAC 480
 25 CTGATGTATG GTAACCACAT GTTCGTGGGT GTGCACAGTC AGGTGCATCA GCAGCTCCTT 540
 ATAATGTGGC GCGTGGGCA GCTGCTCTTG GGATAATGTC CGGATCGATT CCAGGTCCAC 600
 30 AGATGGTAGA TACAGCGGT TCTGGAAGA TTGAAGAAGT GGTACAGCTG CGTCCGCAAA 660
 ATTGTGACC GGCCTGAGC CTGCTCTGG CTGCCGCTGT GCTGCTTCA 709

(2) INFORMATION FOR SEQ ID NO:593:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1407RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:593:

GATCAACCAG ATAAGTATCT TAAAGAACAA CCGAAAATG CGCAAAGCAC ACCACGGGTC 60
 5 CTTCGGTGAT AGACTGATAG AGATACAGAA AGTAACTTCT GTGTCAAGCG AACCGGAGCT 120
 CCGGTTTTITA CACCTTCGCA ACAGCTGCCC CCATGCCATA GCACTCTTTG AGTTCTCTTA 180
 10 GTTGCTTTTC ACTAAACACC GCTCCGATGT TTCACAGAAC AGGTTTAATA TGGCAACCA 240
 AAGAGGAGGT TAACTCAGA GAATCACAGT GTGAAACAC CGGTATTCA ATGAGGCATT 300
 15 CCCCCAAGTC GGTTCCTTTG GTTTCGATG CCATTGGCTA GTAATCCACC AAATCTCCG 360
 CTGCTCAACC ATGGGATCC TAGATGCCA GGATGAGACT GTTCAGTTA GCGAGGTGTT 420
 20 GTATGCGCCG CCAGAGGGAA ACCCAATGAC TTTCATAGA ACAAACCCG CATCACCCAT 480
 GTCTTCCGT GTATAGAGAC TAAGTATCT GACGATCCCT TAGGACTCT CTCACCGCT 540
 25 CGAGGAGGC ATTGAAGCTC TTACGAAGT CACAAACCTA CTCGAAGTCT GTTTCAGAC 600
 TTCTTTCTGT TTGCTTCAA CTGCTTTCG ATGAAGTACC CCCCAGGCTA TTTTCTTAC 660
 30 CCGCTGGTG TTGCTTATA TACCCGGTGT TATTTTTTGA TAAAAA 707

(2) INFORMATION FOR SEQ ID NO:594:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 571 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1407UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:594:

55 GATCGTCGAA TTTGGGTATA GGGCGAAAG ACTAATCGAA CCATCTAGTA GCTGGTTCTT 60

GCGAAGTTT CCTCAGGAT AGCAGAAGCT CGTATCAGTT TTATGAGGTA AAGCGAATGA 120
 5 TTAGAGGTAC CGGGGTGAA ATGACCTTGA CCTATTCTCA AACTTTAAAT ATGTAAGAAG 180
 TCCTTGTTGC TTAATTGAAC GTGGACATAT GAATGAAGAG CTTTTAGTGG GCCATTTTGG 240
 10 GTAAGCAGAA CTGGCGATGC GGGATGAACC GAACTGGAG TTAAGGTGCC AGAATACAG 300
 CTCATCAGAC ACCACAAAAG GTGTTAGTTC ATCTAGACAG CCGAAGGTG GYCATGGAAG 360
 15 TCGGAATCCG CTAAGGAGTG TGTAACAACT CACGGGCGA ATGAACTACC CCTGAAAATG 420
 GATGGGCTC AAGCGTGTA CCTATACTCC ACGTCAGGG CAAATATGAC GCCCTGACGA 480
 20 GTAGGCAGGC GTGGAGGTCA GTGACAAGCC TTAGGCTGTA AAGCTGGGTC GAACGGCTC 540
 TAGTGCAGAT CTTGGTGSTA GTAGCAAATA T 571

(2) INFORMATION FOR SEQ ID NO:595:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 658 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1408RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:595:

GATCCCGCTT ACCAAGCAAT TACAGGAGAC AGAAAAGAAG GATAATAATT TACCACAGAA 60
 CTCCAAGCCT GACAGAGCAG CGATTTCAT TCTGAGTCAC ATGACAGCAG ACTCTCTTTG 120
 50 CTTTGAGCT TCAATAAGCA CCAATATGAA TATGAATAGT TTAGATGCT TTGTATAATT 180
 ACCACTATT AACTTTATCTT GATTAATATT TATTATTTTG TTATTTTATT ATTTTATTAT 240
 55

TTTATTATTT TATTATTTTA TTATTTTATT ATTTTATTAT TTTATTATTT ATTTTATTAT 300
 5 TTATTTTATT ATTTATTTTA TTATTTTATT TATTATTTAT TTATTTATTA TTTATTTATT 360
 TGTGTGTGTG TTTATTATTT TTTTATTTAT TACCTTTTAA TTTTATGTTA TTTTATTTTA 420
 10 TTTTATTTTT ACTTAGTATA TAATATTATA TTATATCATA GTATAGTTAT ATTATGGTGA 480
 CTTTATTCAT TATATAGATT GTATTTTGTG AACATAATAT ATATGCTATT TCTATTTCTA 540
 15 TTTTATTTTA TTTTATTTTA TTTTATTTTA TTTTATTTTA TTTTATTTTA TTTTATTTTA 600
 TTTTATTTTA TTTTATTTTA TTTTATTTTA TTTTATTTTA TTTTATTTTA TTTTCACT 658

(2) INFORMATION FOR SEQ ID NO:596:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1408UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:596:

GATCCGCCTT CCATCGAAGA GGGTACTGTT TGATTATGGT GATTTCCTGG TGUGGGTTCG 60
 ACATTCAAGT GCATAGTTGG AGGTTACCGA TAACTTAGAT TTTCTATATA ACGGTTACCC 120
 45 TACGTCTTCG CGGTTGGCGG ATATACTGAT TAACAGTTGG AGAGCCTTGG CCGGATACTG 180
 TGAATGCCTT CTCTTCAACA TTATTTGAAT ATGCAAAAGT TATTTAAATT AAGTAACACA 240
 50 CTTGTGCTTA TATATTCAAT TGTTCGAAGC GCGCCATCCA ACATGGCGAT TCTCATCTAG 300
 TTTGAGAACT TCGGTCTATT CTTATTCTGT GTACGGCAAC GGTATTAGGA GAGACTTCGA 360
 55

GTTTTGGAA CTTCAAAGTC AATACTTCAT CATCGTAAGT AGCAGTTACT TGGCCTAAAC 420
CAGTGCCAC CTTTGTAGGG AGCCTGATTG TTGCGGAAA CTCGCGGTTT GTGGGTTC 480
CAGTAGTCCA CGGCTCTGTA TTCTCATCCG TATTAATGGC TGGCAAGACA ATAGAAAGAA 540
CTGCATCATT CATGTCTCGA TGCAGGGCAA TATCTATGTG GTCTTGAGAC ATTACGCCAG 600
GAACTCTGAT GTGGATCTCA TAGGCGTCCG AACGCTCCAA AATTAATAAT GAAGGAAGAA 660
CGTCAGAAAT TCGCGCGAG AGCTTGATT CTGAACTAGC TGCCCACTC TCAGCTTTGT 720
GT 722

(2) INFORMATION FOR SEQ ID NO:597:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1409RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:597:

GATCCTGGCT ATCTACCTGC TGCTGGGCGC GCTGCACGCC ATACTAGGGC GCACATTCAG 60
CGGATTAAATG TATGTGAAT ATGCGCGAGT AGAAAACCA CGTTCATGTG ACAACAAGGC 120
CACCGGACTA ACCAATTTAC AGAACGCGCG CTATTTACAG GGCTGCCCTG ATCGCGATGA 180
GTACTTGGAT TCGCTTGCA TCCGCACTCG TACAGGCCCT GTACCTGCTA TCGGCAGCAT 240
TTGTGGCACA ATCCAAGCTG ATATAGGATA CAGACATCCA GCAAGACGCT GGATGGATCG 300
GTTGTATCCC TCTGCTGCAT CAATACGCTA TCGCGGCGCG GCAGCTTATT GTCAAGTGAT 360

TCGCTATCTT GTGAGCACC CAGACATATG TTGCTGAGCC TCCCTCAGCT ATATAAGCGT 420
 5 CGAAGAAGGG CGCGAGTCGA ATACATGTCT CTGGCGCTGT GTGCCTGTG CAGTCTCCG 480
 CGATGTCGTC AACTTTCATA AACCGTTCCT TGGCAACTAT CCGTACAGAG CTTGCCCTTTT 540
 10 TGGTGTGATC CGGGTCAIT ACGGGCGAGC AGTCAGAGCA GATTGAATCT AATCTTCCAA 600
 ACCCTAACGA AGCCCTCCGT GGCGCTCCCG CAAATAACGC AGGGCCTGTG GAGTATGTGG 660
 15 AGGCACTTTA TCGGTTTCAG GCGCAACAGC CTGGTTGACC TAGACTTCAA 710

(2) INFORMATION FOR SEQ ID NO:598:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1409UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:598:

GATCGGGGAC CAGAAAACCA CAAACTGGT CCTTGAGGCG GGGTGGGCG TATACGCTGC 60
 40 TACTGTCTCT TCTTGTCGTA GCTGIGGCT ACGGCTCTGC GTGCGTAACC GCTGGCATGT 120
 GGCTCATCAC CAGAAAATAT GATGTCTCAA CCGAAGTTC AATATGTCC TGTCCCTGG 180
 45 TGGTCTGGG CTACGGTGTG GGACAGCTGG TTTGGGCGCC TCTGTCAGAC CTGTACGGCC 240
 GGCGATAAC GTACTTCACA TCTCTATTCC TTTACGTGGT ATTTAATATT CCATGTCCG 300
 50 TGGCTCCCAA CATCCAGACG CTTTGGTTT GCAGGTTTAT TTGGGGGTC CTGTGTCGT 360
 CTGGACTATG CCTAGTGGC GGCTCTCTCG CCGATATGTT TCCAGCGAC CTGGTGGT 420
 55

TGACCATGCG GTTCTTTGCA TTGCAACCAT ATGGAGGTCC GGTATTTGCG CCACTTATAA 480
 ACGGATTCAT CGCTGTCCGC ACAGAGAGGC TTGACCTTAT CTTTGGGTC AACATGGCGT 540
 TAGCCGGAGC TGTTTGGCTG TTAGTGGCAC TGGTGCCCGA AACATATGCG CCAATTATTT 600
 TGAAACGGCG CCAGAGAAG CTGAGGAAAC TAACAGGCAA CCAGAATATA ATGACAGAAC 660
 AGGAAGCACA GGGACTCTCC CTGTGGGCAT GGTGCAGACT TGTCTACTGA GACCG 715

(2) INFORMATION FOR SEQ ID NO:599:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1410RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:599:

GATCAATTGG TCACATTTGG CGTATGCAAT TTCTACCATC TCCTCTTTGG TAGCCTTTAA 60
 TTCCACTCCT GGTGTAACAT CACTAATGCC AATAGAAAAG CCTCTATTTC CCAGATAGCG 120
 CGCACAAAGC TTGCCATCC TATTATAGC CTGGGTGCT TCTGTGGCC CGAAATCTCT 180
 CAGAATAGTA TAGAATACGG AATGTTTCTT ACCATCACCA AGCACAGACT TATCCATGAC 240
 ACCAGACAGA ATATTAGAGC CTCTGATAAC TACATAACCA TCATTAGCAG ACATCTCATT 300
 TGGATAGGCC TTATTCTTAG GCGCAATATA AACCTTATTC TTGCAATCA AATTAATAAT 360
 AACGGGAGAT TTCTGTTCG GTTTATCAA TAGAGAGAAG AGCTGTTTC CAGTCCATAA 420
 GTAGTGTGGT CCATAATTG CAGGCGCGG TATGTCAAAC TGCAGGTGC CGTCAGACAT 480

CATAGAAAGC ATTTGGACAA AAGTTGCGCG GTGGAAGAAG GAGTCTTTGT GAGAAATCAA 540
 5 ATATGATCCA GTGATGAAAT CCTGGGTAGC TCCAATGATC GGTTCACCGG ATTTGGGAGT 600
 CAATAAATG TTTTGGACAC CCATAAGGTT GATTGCTTCC GGGCGAGGCT CTTCGGTTTG 660
 10 AGGAACATGC AAGTTCATTT CGTCACCATC AAAATCGGCG TTGTAGGGG 709

(2) INFORMATION FOR SEQ ID NO:600:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1410UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:600:

GATCTGAGCC CTAGCATCTT CGGTGGAAG CGGGAAGTCT ATTTTCTTAT CCAAACGACC 60
 GGAACCCAGA AGCGCTGGAT CAAGGACATC GACTCTATTG GTAGCAGCCA AGACTTTTAC 120
 40 CCTATGCTCA GAACCAAAGC CATCTAGTTG GTTAGCAAC TCAAGCATGG TTCTCTGCAC 180
 CTCCTATCA CCGACTTCT CCGAGTCAA ACGCTTAGTT CCAATAGCAT CCAACTCATC 240
 45 GATGAAGATA ATGGTAGGTG CCTTTTCTT CGCCAAGGCA AAGCGTCCG GGACCAGCTT 300
 CGCACTTCA CCTATGAACA TCTGGACCAA CTGGGAGCG GCCAGCTTCA AAAAAGTCCG 360
 50 ATTGGTCTGA GCGGCACAGG CTCTTGCCAG AAGGCTCTTG CCGGTACCCG GTGGACCATA 420
 CATCAGAGCA CCTTTGGGTG CCTAATACC CATATCCTTG AACTTGCTTG CCTGCTTCAT 480
 55 GGGTAACAG ATTGCTTGA CTAGTTCCTC GATCTGCTTG TCTAGCCAC CAACGTGGG 540

GTATGTTTCC GTAGGCTTGT CATCCACTTC CATAGCTTTC ACTCTAGAGT CAAACTCOGA 600
 5 AGGAAGCGTA TCCAAGATCA GGTACGAGTC CTTGTTTACA CCCACCAGGT CGTTGGGCTT 660
 CAACTGCTTA AGGGTCCACT AGCCCCAACCA TGGGGAGAAA AACCGTTTGT CGGACGAAG 720
 10 TTTCACA 727

(2) INFORMATION FOR SEQ ID NO:601:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1411RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:601:

GATCAAATGC CCTTCCCTTT CAACAATTTC AGTACTTTT TCACTCTCTT TTCAAAGTTC 60
 35 TTTCATCTT TOCATCACTG TACTTGTTCG CTATGGTCT CTGCCAATA TTAGCTTTA 120
 GATGGAATTT ACCACCCACT TAGAGCTGCA TTCCCAAACA ACTOGACTCG TGAAGAAGAC 180
 40 CTTAGATGGC ACTAGCACCC CGCCAGACG GGATTTTCAC CTTCTATGAC GTCTGTTC 240
 AAGGAACATA GACAGGACT AGCAACCAAG GTACTTTCTT CAAATTACAA CTGGACGCC 300
 45 GAAGGGCCA GATTTCAAAT TTAGCTTTT GCGCTTCAC TCGCGTTAC TAAGGCAATC 360
 CCGTTGGTT TCTTTCTCTC CGCTATTGA TATGCTTAAG TTCAGCGGT AATCTACCT 420
 50 GATTTGAGGT CAACTTTTG GAATACTATT CGCTGGAAG GCTTGTITG TCGTAGTTC 480
 TTCAAGGCC ACTCCACTC CACGATCTGG TCGAAACCTA ATACGCAGTG TAGAACTAG 540
 55

CTCAGACCCG AGTCGGCGCA AGTTCCGCCC ATGGCCAGCA TTTTCAAGTT AACCTTGTCT 600
 5 TACGACCGAG TATCACTCAT TACCAACCC GAGGGTTTGA GAAGGAAATG ACGCTCAAAC 660
 AGGCATGCCC CTGGAATACC AGAGGACCCA ATGTGCGTTC AAAGATTGGA TGATTCAAGA 720

10 (2) INFORMATION FOR SEQ ID NO:602:

(i) SEQUENCE CHARACTERISTICS:

- 15 (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 25 (A) ORGANISM: PAG1411UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:602:

GATCGTCAGA TACCTTAGTC TCTATACAGC GCAAGACATG GGTGATGGCG GGTTTGTCT 60
 35 ATGCAAAGTC ATTGGGTTTC CCTCTGGGGG CGCATAACAAC ACCTGCCTAA CCTGAACAGT 120
 CTCATCCTGG GCATCTAGCG ATCCCATGGG TGAGCAGCGG AGGATTTGGT GGATTACTAG 180
 40 CCAATGGCAA TCCAAACCAA AGAAACCGAC TTGGGGGAAT GCGTCATTGA ATAGCCCGTG 240
 TTTCGACACT GTGATCTCTT GAGTGTAAAC TCCTCTTTGG TTGCCGATAT TAAACCTGTT 300
 45 CTGTGAAACA TCGGAGCGGT GTTTAGTGGG AAGCAACTAG AGGAACTCAA AGAGTGCTAT 360
 GGCATGGGGG CAGCTGTGTC GAAGGTGTAA AAACCCGAGC TCCGGTTGCG TTGACACAGA 420
 50 AGTTACTTTC TGTATCTCTA TCAGTCTATC ACCGAAGGAC CGTGGTGTGC TTTCGGCATT 480
 TTGGGGTGTG TCTTTAAGAT AGTTATCTGG TTGATCCTGC CAGTAGTCAT ATGCTTGTCT 540
 55 CAAAGATTAA GCCATGCATG TCTAAGTATA AGCAATTTAT ACAGTGAAAC TCGGAATGGC 600

TCATTAAATC AGTTATCGTT TATTTGATAG TTCTTTTACT ACATGGATAT CTGTGGTAAT 660

5 TCTAGAGCTA ATACATGCTT AAAATCTCAC CTTTGGGAG AGATGTATTA TAGAATA 717

(2) INFORMATION FOR SEQ ID NO:603:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1412RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:603:

GATCTGGAAC CAGGATGACT GTCTGGCAGT TAACTGGGC GACCAGATTC GCTTCCTACA 60

CAACTTCTGC TCCGTGGCC ACGGTATTTC CATCGGGTCT GTTGGCCACA AGAAGGGCGA 120

CTCAGTCACC AACTTCTCG CACAGGACAA CCAGGTGCTC GAGTCGGACA ACGGTCTAAG 180

AATCAAGACT TTCTGGGGG CCATTGGCAA GGTGACAAC ATCAAGTTCA TCAACAACAA 240

GGTCAAGAAC ATCCGCAAGT TCGCTATGCT CATCCAGGC GACTACAAGG ACGGCACCAC 300

CACCGGCACC CCAACCGGC GCTGCCCAAT CACCAACCTA GAGTCAGAG GCAACACCGG 360

TAACACCGTC GGCAAGGCA GCAAGCTCAA GATTCTGTC AAGAATGGT CTAAGTGGAC 420

CTTCGGCGAC AACAACATTT TGGGCAAGAC CTTCACAGC TGCTCTGGCG CACCTAACGG 480

CATCAAGTGC TAAGCGCCTT TTTTTTTTTT GGCTGGCCT CGAACTATT ACTATGAACA 540

TTGGCGTCCA CCGCCACTAC AAAAGCATCG GGTCTATCC ATTATAACAT TAAATCTCA 600

GTGATATTA TATTTTACAT TGAATGTCC TTAGGGCTTT TTTATATTAT ATAAACITTA 660

GATTAAAAAA ACGAGGTACA AGCAGATCAA CGAAGCTTTT CGGCCAGCCA

710

(2) INFORMATION FOR SEQ ID NO:604:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 728 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG141ZUP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:604:

GATCGAACGA GATAAACAGA GGTATTGGTT GTTATCACAA ACATATAATC CTGGGGATAC	60
AACGCTGTCA AACTCTGGGC CTTCTGCTTT GTGTCTAGAT TCCTTTTGCA GGCTTGAGAA	120
TAACCTGTAC AATTTTTTGA TGTGGTTAGT AAGAGAGCCA TCAACGATAT CATGCCACAA	180
AGTTCGGTTT CTTTCCCTG CAAGCGGGAA TGCGCCTTCA TTACTTCCCG AATCTTCTCC	240
ATGAGTCGAT GGTCTCGGGG TTGAAGCTTG TAGTGTCAAA GGTTCATTC TTGGAGAAGG	300
TTCTATCTCT ATTTTTTGTC CCCAGAAAGA ATCATTTGAC ATCCAATATC TTGTAACTTC	360
CCTGGGATGT AATCTTTGAA TAGCGGGGTT TCGGTACAAG CTGCTACCTG CCAGATTATT	420
ATTTAACGAT TCTTCTGGTC CGTGAAGGTG ACGTATAAGG TGGACGCTAT TGGGTTTCTT	480
TTCCAACATA GGTGTTCAT CAAATGAGAG GTAAAATGGT TCCTGCTGGG AACGGAGCA	540
AGGCTCCTTT ACTTTAAGTC TTAACAAGGC GTCAACATAT TCTTTTGA TCGTTCTAGA	600
AGTGGTTACA AAATCCATAT TCGTCTTAG ATCTGACTCC TGAACGCCCT TGTCTAGTTT	660
CTCATCCCC AGTGGTAAAT CTGAACGAGG GACAAAGTAC ATGCAACTGT CCTCATCATT	720

GTAAGTCA

728

5

(2) INFORMATION FOR SEQ ID NO:605:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 732 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20

(A) ORGANISM: PAG1413RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:605:

GATCTGCTGG GAGTGACTCA GGAAGCTTTG TCAGTACCTG GAATGAAAAA ACAGTCTCTG	60
ACAGAGCGGG GAAGCTGGGC CTGATGGTGG TTACAGCGGA CCAGTTCAAA GAATATGAAC	120
AATTGAAGAC TGTACGCCCC AAGGATCAAC TTGCTCAGCA GGCGAAGGAG CTAGATATGG	180
TGCTAATTGA TGCTGCTGAA CTATACGAAT TAAGAAGCAA AGTTTCOGAT GGAATGCTTG	240
GCGATTGAA CTCTGACTTT GTCTTGAGCA AGGAGATCAT TCTTGAGAAT GCTCATAGTT	300
ATGGTTTAAC GGTTCCTTCAA ACGGAAGAGT ATCTTCAATT ACAGAGTAGT TTGGAGAGAG	360
AACAGGTAAC GTCTACAAC ATTGCCGAGA AAGCAACTAC AATTGGCTAC GTTGCACTTC	420
CAAGAACCGA GTACGATGAA CTGTAGCTT CCGAAGCTTC TACGAAAGAA CAGAATTTTG	480
AGGTATACGC GCGGAAAAT GCGAAGGTCA TAGTGGATAA ATCTGAGTAT CACGATTTGA	540
AGATCAAAGC TATCCAGTG ATTTCAACAT TGCTCAAAT GAGCAAAGAG CAGATGGTTG	600
AAAAGGCCAA GGAAGTTGGA ATGGTAGCTT TGCTCATTTA CGAGTATGAG AAGTTAAAGA	660
GCCTATTTC CGATAACGCT TTGAATGCAA CAGCGAAGGG ACGTGGAAA GGTGTGTTCTC	720

CTAAAGGAGA GT

732

5 (2) INFORMATION FOR SEQ ID NO:606:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 721 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1413UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:606:

GATCCAGTTT TAGGTCCACT TCAAAC TGA TTTTCGGGTA CTCCCCGCAC ACCACCGTCA	60
AGTCATGGC ATAGATGAC TCAAGCACTT CCAGCTCTG CTTTGTCTCC TCTGATAGT	120
CCATACCTAT CCGCTGACC AACTATGAGC CCACGGCAG CTTAGGGCTA GACCGTTACA	180
GCTGCAGGTG ACCGTCCGGG GGACGATGG CTATGCTGG CGAAATTTT CCGCTATACC	240
ACCACTTATG TTACCCGGTC TATAGTGCTG CTCTCCGACC TCACTGATGG TGCTGTCCG	300
CGGGACTGC TGCTGTGTC GGCCAAATCC CCACGGCTCT GAACGCTCGT TCCATCTGG	360
TCACGGGTTG ACCGAACGGG AATTGCGGC GCGAGAAAT CTTGGCGAAC CATGCTGCAC	420
GTAGCCTTAC TGCCAAAATT AAGCCGTCAA ATGGCTGGCT ATCCTTCAC GCACGCCAT	480
AGTCACCTGA AGCTGGCTGG AACAGTGGT ACACAGCTTT CTGACGCATA CCAGGAACAG	540
GTGGCCGAGC CCGAGGCCAA CCGTGGGTGA TTATGTCAGC GACTTTTGGT GGATTACGTA	600
AATCTGGGTG CATGCTGGC ACGACAGGC GCATGGCACC CCAAGACAAA CGTGCCACAC	660
CCATTCAATA TTAGAGGACT TTGCTGCACA CCTAATCAT CCGTTGGGTT GTGAGATACG	720

C

721

(2) INFORMATION FOR SEQ ID NO:607:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 729 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1414RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:607:

GATCCGTAAT CGAGTTTAGC TTCGGTGTGG CATCATCGAC AGGTGGAAAT GCTCGCTTGT	60
CGGCGGTCTG AAAACGAGTC AGATGTGCAG AGAGGCTGAA GTCCACATT TTAACCAACG	120
CTGAAGACCG GGAATAGTAG GGCAACGTAG TTCCGCGAAC TTCAGTTTIG TTTTCTTTTA	180
ATTTAATGGA CTACACCAA AAAAGCTCAA CAACAGTCCC AATTAGTTCT GCTAGAAGAT	240
GCAACACGT TAGTGATCAG TAAGTATGTG TACTCGTGTA CTGCTCTGC ACTGCAAAGT	300
TOGGTCACA ACTAGCTGTG AACCATGGTT TGAAAAAAAA TAATGATAAT GATTCCGCCC	360
AGGATCGAAC TGGGGACGTT CTGGGTGTTA AGCAGATGCC ATAACCGACT AGACCAACGA	420
ACCACCTATA AGCCCTTAAT TATACTCAGA TACTAGTGAC CATTTTCTAG TCACATGATG	480
CTAGTTTCCT GAATAAAAGA TGCACGTGAT TACCAAATCT GTATTTACTA GGTAAAATGC	540
CTTGGTGAAT AAGTACGTAG ATATTATATA TGTATACATA TGCATTTTAG ATGCAATAAA	600
AGCTCTATTA TGTATGCGCG CGGAGCTTTA AGCCAGTGTG TTTTCCGATT GTTTTGTGGA	660
TGCAATGGTC TTTGCATAAA AGCCTGACTT TCATCTTTTT CGTCTTGGG TGTAACTTC	720

CAACTCTGA

729

(2) INFORMATION FOR SEQ ID NO:608:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 639 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1414UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:608:

GATCTGGCCC CGCGGGGCA CGCGGCCAG GGGCCAAAA GGAGAGCGCC CGCGGTGGCG 60
 GCGGCACTG CGCGGGTTC ACAAGACATA TATGTGGTA TATAAGACCG CGCGTGGCG 120
 GTGGCTGGCG TGCAGAACCC GCGGTGGCG CGCGGGCAGA GATTCTAAT ACTCTGGTT 180
 TCTTTTTC AGCGCTGT ATATAAGTTC GGGCTGTGTC GCGGGCGTC GCGCGGTTC 240
 GCCAGGAGA TAGGGAGCA TTCCGAGCA GCGTCTGTA GCGGACCAG TACGACAGG 300
 ACGCAGGACA CAAAGCAGG GACGGCAGT GCGGGGATC AGCAGCGCAC AGGAGCCAG 360
 GGTATAAGA GCGCGGTAC GAGGCGCTG GTAGGTATAG GGCAGATGG AGGTGGGTG 420
 TAACGGGATT TTCTGCACC AGAAGACTC TCGGAGACG ATCAAGCTGG AGATGTGGC 480
 TGTGGCGGT TCGGGAGCG CAGGCAGCG CATCGGATG GGCAGGCGG ACGAGAGCT 540
 GACGAAGTGC ATCAGCGACC TGAACATCTT CGATCTGCTG CACAACAACC CGCGTGGAG 600
 TTGGAGGAC AACAAGGAG GTGGCGGCG GCGGCTGC 639

(2) INFORMATION FOR SEQ ID NO:609:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1415RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:609:

GATCGTGGTT CTGTTATCGA AACGTTGGTT GCTAGAACAT TGGCCAGGT TGAAAGTAGC 60
 CAGAGCATGA TACGAATTCT GGGATTATCG GCTACATTAC CTAAC TTCTT CGACGTGCGA 120
 GACTTTTTCG GGGTTAACAG ACATGTGGGA ATGTTTATTT TTGATCAATC GTTCGGTCCA 180
 AAACCCCTTAG AACAGCAGCT GCTTGGTTGC AGAGCCAAGG CGGCGAGCAA ACAAGGAAGG 240
 GAAATATTG ATAAGGTTTC ATATGAAAAG CTTTATGAAC ATGTCTTAAA TGGCTCCAG 300
 GTCATGGTTT TTGTGCACTC AAGGAAGGAT ACTGTGGCGA CTGCGGGAA TTACATTCT 360
 TTTGCCAAG CCAACCAACA GTCCGATGTT TTCTAAGTA GCGATCAAAG CGTTACCAAG 420
 TTTTCCCGAG ACATCTCCAA ACATAAGGAT AGAGATATGA AGGAGCTCTT CCAACATGGG 480
 TTTGGTATAC ATCATGCTGG TATGTCTCGA TCTGATAGAA ATCTAACAGA AAAGATGTTT 540
 AAAGAGGGAG CTATTAATGT GCTTATCTGT ACAGCGACGC TGGCTGGGG TGTGAACTTA 600
 CCGCTGATG TTGTCTTGAT AAAGGGAAGT CAGATATMTG ACTCTAAAAA AGGTGGTTTT 660
 ATAGATTTCG GGATTCGAT GTGATACA 688

(2) INFORMATION FOR SEQ ID NO:610:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 703 base pairs

(B) TYPE: nucleic acid

5 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

10

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1415UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:610:

20	GATCATCAGG AGTUGTCAC CTTGGAAACC AATTGGGAAC CACAATTCCT TCTGAGCCTT	60
	TGGAAATTTC TCACACAAA CTCTGAAACC GTCCTTGTA CTTCATTAT GCGGAATGC	120
25	TACAAGTGTC AACTTATCAG GGTGGATTG GTCCTTAAA TGTACCTTAT CCAGAACAGG	180
	AAGCATCGAG GCTTCACGTA TAAACTTATC TTTCGCGCT CCTTGAATGT TATGCACGG	240
30	GCACACTGAG CACAACGCAG CATAGCCCAT CCGAAGTAGC TTCTCCAAG TCAGCATCTC	300
	GCCACTATAC TCATAGGGAA AGCCATCATC CCCGAATAAT TCGGGGTCTA AGCGTTGTAG	360
35	CGTAATTCCA GGCAAAGCAG TCACCGGGTT GTCTCATAC CATGTTCCCT GCTTAATGCA	420
	CTGCATGGCT TTAATCATAG TCATAACTGT CCTGAGGTAC CCAGATTGCG TTGCAATATC	480
40	GATATAGGCC TGTAGAATAC GTAGCGGCTG GTCGAGAACT GAGATGTAT CTTGGTAATA	540
	ATCTGCAATT GCTAAGTCAG CTCTACTTAG GTAAGCTTGT AAAAGCAAAA AGGCTTTGAC	600
45	ATGGGGGTCC CATATTGGTA ACTCTTGTC TCCTGTAAAA GTACTTTCAA CGGAATATCT	660
	AAGAGTTTCT GACATTTCAA CATTCATGAT AGTCTGCCC CCC	703

50 (2) INFORMATION FOR SEQ ID NO:611:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 718 base pairs

55 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1416RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:611:

20

GATCATCATT ATTTCCTGCG TTGCTGCCGA CGATTGGAAG GCGGGGGTGG GTTCTCTGAA 60

GGATTTCAGG CGTATGAATG TTGCTCTCAC CAGAGCAAAG GCCAGTCTCT GGATCCTGGG 120

TCACCATAAA TCTTTATACA AGAACAAGCT ATGGATGCAT TTGATTTCAG ATGOGAAAGG 180

25

GCGTGACTGC CTCCAAATGG CATGTCCGGG CTTCCTTGAT CCAOGGAACA GAGCCGCCCA 240

GGATGCTCTT CATAGGTICA AAAATCACCA TAATTATATC GAGAAGCAG ATGATTATGG 300

30

GCCTGAACCG GTGATGACTA AATCAAGAGG ACGCAATAGA TCATCCAGAA AAGCAAACA 360

TATGGAAGAT AATCCAGATG ATAACTACGA TCCCGTTGCT GAATTCAAGA AGGAAAATCA 420

35

AAGAGAAAGC AACACAGGCA CCGGTGGTTA CCGTGGGAT ACATCTAACC ACAGATTGGC 480

ACCTGCTAGG AACGATAGCA AGAAGGCCAA GACGTGCTCC AATGCCGCCG GTATTTCOGA 540

40

GGCTACTICA GAGGATGGTG ATCGAGGTCA GAAAGGACAT GGAACCTAGA AGAAGTCTTC 600

CATATTGGG AATTTTATGC CCCAGTTGA TGACGGGACC CCGCTGCCC ATGTGTACGA 660

45

CCCTAAGGAA CGCAAGCCCA AGAATGCTGC ATCCGCTTAA GCGGCTGGCC TTGGGAAC 718

(2) INFORMATION FOR SEQ ID NO:612:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1416UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:612:

GATCTTGCCC	GGCAAGACCA	GGAAGTCGTT	GTACGTCAAC	CGCCCCCGCG	TCITGGAGTC	60
CATCAACTGC	TCCACGGGAC	AGCCCGTCCT	TCTCGGGTAA	CGTCGCCAGG	TGCTCCAGTG	120
CCGTGGCTGC	GTCTCTGTAA	GTCAITGCGC	TTTGTTCCGC	GTGCTATGAA	GAGAAGGAGT	180
CAACACTAAA	CCCAAGCTCT	CAAGTTGACC	CATCCATCAA	GTAAGTATCC	CGAACAGACG	240
CCGTAAACC	CAGCTGGGAT	TTGGCGCATC	TAGAAAACCT	ATTTTACTG	CAGCTCATCG	300
CTGCAAACTT	TTCACGTAAA	AGAAACGATG	ATCCAGCGGG	GGCCAAAAG	CAATGGGCTT	360
GGCGCGCAG	ATGCGAGCCC	TACCGCGCGC	CAGCACCCAG	TAGGAGCTGT	CAGGGGCTTA	420
GAAAGCGCGC	ACCGTAGACG	GGCTCTCGG	GGCGCGCGC	AGCGTCCGA	CGGGCGCCTC	480
GCAGCAGCAG	GGTGGCCAGG	CGACCAAAA	GACCGACCAG	CCAGCGCAGC	AGTCTGTAGA	540
CGCGCGGAG	CAGGCGAAG	GCCAGGAATA	CAGTCCAGAG	CACGCGGAG	AGCAGCAGGA	600
AGTTGAACAC	GCGTCCATG	CCACGCGCG	CACAAACGGG	AACAGCGCCA	GCGCGGCTC	660
GCAGAGCGGC	TGCAGGAATG	CGACGACCGA	CAGGAACGGC	AGGATAGGAC	TA	712

(2) INFORMATION FOR SEQ ID NO:613:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1417RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:613:

10

GATCCCTTG GCGTCGTGT TGACCAGGTA GCGCGCTGT AGCCGAAGA AGCCGACAT 60

15

CGGTCGTAC GCGGTGTGA GCGACGGC CATCATGGC GCGTACTGG AGATCAAGC 120

20

CCGTACAGG GGCAGTCT TGTGATTCC GACCGCGGC GGTAGCGG TGCCAGCAC 180

GAACGGATGT GTGCGTAGTG AGTCCAGAAG CAGCGGTACG CTCTCTGGG GATCTGCAG 240

GTCCGGTCC ATGCACACCA GGTACTGCC CTGGGCTCG TAGAAGCCCT TGAGCACCGC 300

25

ACTGACAGC CCGCGCTGT CCGTGGCAC GATGATCCG ACGTTGTAGC CCTCTTGGC 360

CAGGGCTCC ACCTCTCCA CAGACCGTC CTGGAGTTG TGTGACAA AGATCAGCTC 420

30

AGTCTCTTG GAGTCCGGT TACCGAGGC GGCAAACAG CCGTGGCAA GGGCTTGAT 480

GTGGGCTTT TGTGGTAGG CCGGCACGAC CACAGATCT CGATCTCAT GCGCTGTGA 540

35

TGGTCTTAA TGTAGTGAGT AGCGAACGTC GGTAGCTGTT TCGCAATAA GTGAGGCTG 600

CGCGCTAAT GTGTGTCT TATCGTTCT TTTTGGTTG TGTACGGGG TTACCGGOC 660

40

ACCAGGCTAG ACAGCGAGC CCGCGTGAG CAGCCACGA CCAAGAGCG CTGTA 715

(2) INFORMATION FOR SEQ ID NO:614:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

50

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

55

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1417UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:614:

10 GATCTGCGTA GGTAGTAGAT GAATTGAGGG TATAGGGAAA AGTTTGGTGC CAAGCGGAAG 60
 GAGCGGGGGT CGCCCTTGTT GTAGTCGGCG TACTTCTGGC AAAGCTTGAT CAAAGTTCTA 120
 15 TCGATCCACC GGATGAAGTC AGCGCCATCA TCGGAATCTG CCTTATCGAC TGCAACACGC 180
 GCCATTAGTA CAGCAGCGGC CTCTGGTCA AAGGAAGCAG CGATTGCOGG GTTACCGAAT 240
 20 GGCAACATCT GGTAGCAAC TGTAGTCACT CTGACACGGT TGGTACCAGA TGCATGCTGG 300
 TATGCAGTAA TGAATTGGGT GTATGCCAAT TTTGGTCTGT CCCCCATGAG GCTGGCAGTT 360
 25 GCAGCGGTAT TTGCAATCTC GAAAAGATA GCGTAAGAGT GGTGAGGGCT CAAGGACGCC 420
 ATTTTCCATG TAGAAGTGCC CCAATACCG ATTCTGAAT CGCTCAGTT CTGTGCATCA 480
 30 ACGTTAACCG GCGAAGCATG GCCAATCAGT CCGTGCAGCT TTAGATCTGC ACTGGTTTTA 540
 ATGCACATGG AAGCATTGAA CGCCATGGTT AGGTACCCCTC CTCATCTTTA GAAAACAGTC 600
 35 TGATGAAAGA TTGCTTGAAG ATGGCGTGG AGAATGCGTC AGTCAACAAC AAAACACCAC 660
 CAGTGGAGTC GGTCAACTTC TTCACTCAG ACATACAACC TGGTGTAGC ATCCA 715

40

(2) INFORMATION FOR SEQ ID NO:615:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 728 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1418RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:615:

5	GATCCGGGAG ATTCAATGTC GACCCGCCAC AGGCAATTAC TATAACAACA TCCTGGCGTG	60
	TTAAAGGACC TAACTCAGGC TCAAGTATTT CAGGATGATA TCCTAGATGA AGAGCTGGC	120
10	CACACGCTGG TTCGGTTACA ATATTGCTCT CTTCGCCAAA ATTTAAACAT GTCTGTACTA	180
	CACCGAGCTG GTCAAGCACA ACAGATTTTG TCCTGTATTT TTGGGGGTAA CTCAGAGTAA	240
15	GATCCGTCAC GAAAGATGTG CATAAGAAG TAGCAACGCT TTTAGGATTC ATCGAAAGT	300
	TCCTGCCCAG CAGCAAAGAT CTGTGCAAAA CCTCGCACC CTCTGTTTCC ACTGCTACAA	360
20	CAGGATAGA GTCTGCCAAA CCATGTTTCT CCAGCCATA TACAATCCCA TTATATAACC	420
	CCCCGCCACC TACGCTGCAG ACGATACCTT TCACGCTCTC CAATTGCACG CCTTGGAGAT	480
25	GCAGTGCTTC TACTACTTCA TCTACCATG TTGCATGCCC TTCCAGATG AGTGGGTGT	540
	CGAATGGATG TGCATATATC GGAGCGACTT TTTCTAAATT CACATTCCCC ATCAACTCGG	600
30	AACGTAAGTA GTCATCGCTC TCTTTCAATA CACTTCCCAT TGATATCACA TCTGCCCCCG	660
	TTGACCGTAT CCGCTCTACC ATCGCCGTC GAGTAGTTTC AGGCACTACC ACTGTGCAAG	720
35	GTATCCTA	728

(2) INFORMATION FOR SEQ ID NO:616:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1418UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:616:

5
 GATCATCTGC GTGCGATACT GGCAAAAAT GAGAGACAGC ATGATGAAA TATAGTTAAT 60
 10
 AAGATATTGC ATGATATAAG CACAGGCGGG TTTCGTGAA GAGGAAAGGG TCGACTTGAT 120
 CTGGAATGA GTGAAATGA AGACCAAGAG TTACAACAGT TTAGACAGAA AAGACGAGAA 180
 15
 CTTTGTAAAC AAAAGATATT GGAAATGGT GATACTAGCA AGCTGTATC TAACCCAAG 240
 TCATACGCT TTTTCAGAC GATGGTGAC GATGTTACTG AAGCATCATT TGGAAATACA 300
 20
 TTTGATGCCA ATATAGATGA AAAACAGAT CCATCTGCTG CAGGTGGAA AATTGTCATA 360
 TCAGAACAAT TTGTAAAGGA AACCTGTCA TTCTTGTGA GCAAGGTGG CGACTCAGAA 420
 25
 ATCCCTGCAG AACTAAATC TATTTCATCC AGCAGTTG AAGGTGAGA AATTCAAGAC 480
 CTTCATACA TTGAAGCAA ATAGTAACAT TAAACATTG AAAGGAATCT AGAACTTCT 540
 30
 GCTCAGATGG CTGAATCAG CAGTGGAGAT GAAGGTGATT ACGCTTTTC TTGAGATAGA 600
 TTCGCTCTGC GGCAAAAAGT TTAATAATGG AACTAACGTC GACGATAAGT TTAAAAGTGG 660
 35
 CACCAAGGCA GTGGAATCT TAAAGGCAAT AAGACAATTG GCGTCAAAA GCC 713

(2) INFORMATION FOR SEQ ID NO:617:

40
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: DNA (genomic)
 50
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1419RP

55

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:617:

5	GATCTGGGGA GTCTCATCGA AACGTATTCG ATGAGGCTTG GTGGTGGCAG GCGGCTCCTC	60
	GCTCGATTGG CGAGCTGGTG ATGACTTCGC ACTTCTCCGG GCGGAAAAT TCGTGTGAGA	120
10	CAGTCGGCGT TGGCGTGA A GCTGCCGCTG TTGCTGCACA CGTGGTGGCG CCCTTAGCTG	180
	AATAAGTAAC GCTGGGCGGG TGTCGCGGCG ATCCAGGTAT TCTTCGAGGC TTCTTTCTTC	240
15	GCGGATGTCT GAGATATCTG GAGCACCGCG AGCATTCTGA TACAGTGGC CGAAGATGT	300
	TTGCTTCGCG GTGAAGTCTC CCTCAAACCC GTAGAAGTCA TCGGGGTATT CTCCATCCGG	360
20	CATTGTCATT GTAGTAGTGG TCTCCACATA GGTACGCCA TTGATGTGCT TCACCGTCTG	420
	GCGAGTCAAG GTCCGTGTAC GGCCCTGGAG GTCTTGGTT TCGTGGTCT TCACCGTTAT	480
25	CGTATTGCCA GCTGCACAG CAGGAGGGCC AAAGCGTTG TTGCTGCGTA GCGAATTCCG	540
	GCGTCGTTGC GAGCTCATAC TGTAAGTCG CGGAGGCCA CCGAGGTAGC TGGGCGAGC	600
30	AGCTCTAGC GACCGGTCC GCGGTACCC AGTCAGTAC TGAGTCGGCC CCATCCCAAC	660
	CCCTGGTCTT CGGAGTGACG CAACCGAGCG CCGCGCAGAC GACAAGCCGC TGCTGTGTA	720
35	ATA	723

(2) INFORMATION FOR SEQ ID NO:618:

- | | |
|----|-----------------------------------|
| 40 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 721 base pairs |
| | (B) TYPE: nucleic acid |
| 45 | (C) STRANDEDNESS: single |
| | (D) TOPOLOGY: linear |
| | (ii) MOLECULE TYPE: DNA (genomic) |
| 50 | (vi) ORIGINAL SOURCE: |
| | (A) ORGANISM: PAG1419UP |

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:618:

5 GATCCGTCGG CGCCTGGGTA CCCATAGGGG CGAGGTGGCC GCGGGCCCGC CAGGTCACTG 60

CGCCCAAACC GCACCTGCAC CTGAACCGAG CCTGCAGCCC ACGAAGGAAC GCCACGCTAC 120

10 ATGTGCCCCGT GCAGAGCACC GCGCTTGCTT TCGGGGCTG AAGTGACTGT GGCACGCTCC 180

GCAGGACATA TCTTTTAAAT GAGCTGTGTC ATGCGCACAT TCTCACCGTC GCGCTACCGT 240

15 AGCGTGGCCC TCTGTACCG TGTGAGCTGC TGCCAAAACA AACAAATCGG GACGGGCCCC 300

CATGCAGTAA TTACCTCTTC CCGAAGGCAA CGCCTTGTTT TTGTTTACGT TGGCCAGAGA 360

20 TTTTCTCTTT GGGGTGGATT AGCTCACCG TCATCCGCGT GGCAGAGGTG CCTGCCCTGA 420

CAGTTCTTCG AATATTAGAT GCTGGTATGC GGCACGCGCT AGCGCAACCG ATTGTAGTTT 480

25 ATTGTTTCGT CACACCCCGC TAGAGGGCCG AGCTACAGGA TCGCCGATGT GCGGTGACCG 540

ACAGCGTCAA CGTTACGATC TCAACGGTCG CTGCTGCGG CCGTCTGTG GTAGGCGTTG 600

30 AGATACGCTT AGGATGAAAG CACGAAAATT AAGGTTGTG TAAAAACACA AAGTCAACTG 660

GGGTTTCCGA ATGGGTTAGA GTCCATCGT AATGGCGGAC GGAGAGTGTC CATGGTCCGA 720

35 G 721

(2) INFORMATION FOR SEQ ID NO:619:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 721 base pairs

(B) TYPE: nucleic acid

45

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1420RP

55

EP 0 866 129 A2

(xl) SEQUENCE DESCRIPTION: SEQ ID NO:619:

5	GATCAATTCA AGGTTGCTTT CCCAGACATC TACGCTGTTT TCCAAAAGAT CGCTCAGCAG	60
	CACCCCGACT ACGAAGTGAC TGTCACGGGT CACTCACTGG GTGGGGTTA TGCTACTTG	120
10	ATGGGCTTGG AGCTCCAGCT ACTTGGCCAC AAGCCACATG TGATCACCTA CGCCGGCCTG	180
	CGTATGGGTA ACGCTGACCT CAACAAATGG TACGACAAGG TGTTCGACAA CGTCAAGAAG	240
15	GTGAGGACT TGAAAAACGG CGGAAACCCA AGAAACGCTT ACATCCGTGT GGTTCAGAGC	300
	CGTGACATTG TTCTATGGT TCCAAGTGGC CCTATCTACA CGCAGCGGG TATCTATTT	360
20	ACCATCACTG ACGTGGACAG CGAAGTACCT CTACAATCGG GCGTCAGACT TGATGGCTGT	420
	AACACCAAGC TAAAGGAGTT GGTGGGCGAC ATCTCTTCA GCGGAAGTT GCTAAGCTTG	480
25	GTGGGTCTOC TGAACACAA CAAATTTTTC AGAAGAATGG CTTTGCCATG CACTGATAAT	540
	TCCTTGAAGC TATAATTCCG AGGAAGTAAT GAATTTTAAG TACGGAACGT GCAGTGGCTG	600
30	CAGTCTCTG CCTCTTCTT ATGCCCTATA TAGTTAATTT GATGTTCTGT TCTATTTTTT	660
	TACATTTTCC AAACACTGGG AATGCCACCT TGTAGATGTT GTTCCAAGA TGGATATTTA	720
35	G	721

(2) INFORMATION FOR SEQ ID NO:620:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 626 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1420UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:620:

5	GATCGTCCG GAGGCGCGCA CCAAGCGCAA GTGCATGGTG GTTGTGGCCG GCGTGGAGGT	60
	CTTCGAGATT GACATGAAGA AGCTGGCGAA GACCTTCGCG TCCAAGTTCC CGACGGGTTG	120
10	CTCTGTGTCC AAGAAGCTCG AGAAGAAAGA GGAGGTCTGT GTTCAAGCG ACATCGGGGA	180
	CGAGGTGAG GCGTACATCC ACGCGCTGCT AGAGGAGAAG GCGATGAAG GTGTCAAGT	240
15	CGACGAGATA GACGCTGCCA AGAAGAAGAA GAAGAGCCG ACGAGACGA CGCGCGCGCC	300
	GTGTGAAGA GCGGTCCCG ACATGTGTAT CAGATTCTTA TGTAGTATT AATGATTGCT	360
20	GCGATTCCA GTGTCTTACC AGTCCAAGAG GACAGGTGTC TGGCATGCTT GCACATTGCT	420
	GCGTCTCCG TGGGACCAT GAGCTGGAG ATGCATCTAA TTGAATGGC GCTTAACCTG	480
25	CGTCTCCCG GAGCGCGGT ATTTCGCAGT GCGAGGAGG AATTGGACAG AGTGCTAAAA	540
	CTGCACTACC GAGTGACATA CCATGCGTTT GACCGGGCA CCAAGCGTC GTGTGGGAA	600
30	GTCTGCTGC GGAGGCGAG AAGATC	626

(2) INFORMATION FOR SEQ ID NO:621:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 582 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
40	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1421RP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:621:

55	GATCCCTCAG TTCCCCATCT TGCCCTCACA GCCAGGATGG ACCATCCGTA ACTGGGAGTT	60
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ATGCGGTTTC ATTTGTCITT TTAGTACAGT ATTATCTCTC TGGTTTACA TCCTACTTGT 120
 5 TTTATCGITA CTGGGTATG TATGGCATCT TAAATTTTAT CGACTCTAGT ATTTTATGA 180
 CTGTGTAAAC TAATGAAAAA TAATGAATCG AAGTCTCGTT TACCTAGAGC TGATTATGCC 240
 10 ACATGCGTAC TATCGGCGTG CCACCGCAAT TATGTATCTA TCCTACAGAT AATCCTTTCT 300
 ATTAGCAGTT CTCACGAAAC GTCTCAGTTG CCACTCGACG TCAGCATCCT TGTTCTCCAA 360
 15 GGTGCCAGT GTCAGCTCGT AGAGCTTCAT TTCGAACCGT GGTCCACCT CCGCCAATTC 420
 AACTCCATCT CTGCTCTTGA CGTATACGTG CTGCCGCACA CTAATGAAAT CGCCGCGGTT 480
 20 CGCAAATGTG ATGACCCTAG GGCTGTCITT CTGACTCCG GCGGGGAACA TGTGCTTCAG 540
 TATTTTAAAG ACCCGTTGCC CCAATGGAGT ATTGAAATTA TC 582

25 (2) INFORMATION FOR SEQ ID NO:622:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1152 base pairs
 30 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1421UP

(>i) SEQUENCE DESCRIPTION: SEQ ID NO:622:

45 GATCATCATA CCGTGTCCAA CATCGCCAC GGAACCACTA GTCACTTGAA GTGGAACGCA 60
 GGTAACATAC GCGATGGCCT CCACGACGAC TTGGCCAGCT TCAAGGACGC AGTCGTGCAC 120
 50 TGCTCAAGT TCCGACGGG CCAGTCCCGC GACTACCGCC ACCAGTCGTC CATGTTGGC 180
 AACGGTTCG CTGGCAGTGC CAAGTCCGGG TCGTGGTTCG GTGGGCGAC TCACTCGCC 240
 55

GATGGACTAC TCGAGCGCGG GCGCGAGGCC GGGCGGAGG CCGGTGCGA GGCCAGCTCG 300
 5 TGGTTCCGCG GCGACAGCGG CACCGAGGAT TCGGCGCGT CGTGGTTTGG GCGCGACCGC 360
 CCGGACACCC GCGACACTCG CTCGGACCGC TCGTGGTTTG GCGCGACCGC ACCGAGGGCC 420
 10 CGCACCGAGG GCACCTGGCT CAACGGAGAG CCGGACCGCT CGTGGTTTGG TCGCGAGAAA 480
 CACGCCACCC TCGACGAGTC CGACCGTGTG TTCGGGAATG GCGCGCGTCT CCGCGTCGAC 540
 15 ACCAGCGGCT AGCGCGCGAC GCGCGCGCA AGGTGACGA CATCAAGCAG GCAGGTGCAG 600
 ACCTGGGCGG CTCGCGCGAG GCCAAGGTGG AGGACTTCAA GCAGGCGCGC GCTGACCTCG 660
 20 GTCGCTCTGC CCAGGACCGC CTCAGCGCGG GCGTTGCGA CGCCAAGCAG AGGCTCTCAG 720
 GCGCGCGCTC CACCGTCTCC GCGCGCGCGG CTTCCGCTGC TGGCGCTCT CCGGACCGCG 780
 25 CCTGTTCGCG CCGCGACAAG ACCCAGTCCC TCTTCAACTG GGGCTACAAC AAGGCGGAAA 840
 AGTGAAGGC CATCGCCATC GCGAGTAGG ACAAGGCCAA CAAGGACTAC CAGCAGGCCC 900
 30 TCGACGCTTA CAACCGCTCC AAGCGCTGC TCGCGACCG CGACCAGCAC CTTCGCACCG 960
 GCCTGAGAG CGGCCAGGCC CAGCTGGGTG ACTGTGCGA CAAGCTGAC GCATCTCCG 1020
 35 CGGAGTTGCA CCACTACGCC CCGGAGAACA TCTCGACAT CTNCGGCGN CTGGACCAAG 1080
 AGGACCGCGA TTCCGCGGCT TCGCGCTCT TTAGCTGGTT CCGCTTCAAG GCGCGCTGT 1140
 40 CGAAATCGAC CT 1152

(2) INFORMATION FOR SEQ ID NO:623:

- 45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 713 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 50 (D) TOPOLOGY: linear

 (ii) MOLECULE TYPE: DNA (genomic)

 55 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1422RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:623:

10 GATCCGTGTC CTGGGGCTGG TCGAGAACAT GAGGGGCTTT GTGTGCCCAT CGTCCGAAAA 60
 CGAGTCGACC ATCTTCAAGC CAACAACAGG TGGTGGTGGC GCGTTGTGGC AGGAGCTGGG 120
 15 GATAAAGTTC CTGGAGCGG TGGCGATTGA TCCGGGAATT GGAAGATGCT GCGACTCTGG 180
 CGAAAGCTTT TTGGAGCGCT ATCCGGACAG TCCAGCGTGG ACCGCCATCA TGCATGTGGT 240
 20 AGAGGCTCTC CGTGACGCGG TGGCGGACGT ATAAGCGGCC TAGCAGTTCC TGCCAGTGAC 300
 AGACTGATAC CAGTTTATAC ATACATACAT ATTTGTAAAA AAGACGCTTA GTGTACGTG 360
 25 GATGCGAGCG CCCGTTTCAG GTAGATAGTT TGGGCTGTC CCAGCGGCAA TGCAAGTAAT 420
 CTGTCTTTAA AAGACGGGGT CTCCAACGCT TGTGATAAT TCTCAAGGAT GATATGACAG 480
 30 ACAAGTTTGG ACATGACACA GCAAACGACG GAGAGTTCTC GGTGGGAGCC GAAATCCGTG 540
 GCCAGGACGG GCAGAACCCG GACCAGATCG GAAAGCAGCT CTGGTTGTG GTTGTGTGCA 600
 35 AGTGCTATCT GGAGGTACTT CTCAAATACC CCCAGGCGGT GAGTCCAAGT TTCCATCTGT 660
 TGTGCGGGGA AAGTCTCCAA TAATTGACGC AGTGTCTGCA AGTTAGCAGC TGA 713

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(2) INFORMATION FOR SEQ ID NO:624:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 642 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1422UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:624:

```

5      GATCTCTAG GCGCCAAGTC GACGACTACA GCGGGGCTTT TTGGGCCAAA GACCGAACAG      60
      AAGCCCGCAG GCGGGCTTTT CCGACAGAGT AGTCCCGCTC CCAATGGCAC TGGCGGGGGT      120
10     GGTCTCTTCG CTAGCACGGG CAACAGGGG AGCACCAAT TGGGTGGCT GTTGGGCAAC      180
      AGTGCTGCGG GCGGTGGTGG GAGTCTTTTT GCGCGCGGCT CGCCCGGAA CAACAACGCA      240
15     TCACCTCGT TGGGAAATCT CTTTGGGAAA CCTAATGACA CGGCACGGC AGCTGGTGA      300
      GGTCTTTTCA GCAATCGGC GAACACAGC ACCACAAATA CCGTTTCTTC CACTAACAGT      360
20     CTTTTAGCA ATAATCAGG AAATGGTGG CAGAATAATG GGGGGCTCTT TGGTGGGAAA      420
      CCTACGGGG GGTCTTTTG AAACAGCAAC GCTCAGCCAC AGTGCTGCT TTTTGGAGCT      480
25     TCCTCTCAC AGAATAATCA GCAGCAGCAG CAGCAAACAC AGCAACTGTC CCTTCTGGT      540
      TCCAATCCAT ATGGCTGAA TCTGACTGGT GTTCTGTGA CTACCATGCC GGAATCTATA      600
30     ACGGCAGCAA TTACGTCTAA GAAGAAGACG AAGCTACCG CT      642

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(2) INFORMATION FOR SEQ ID NO:625:

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35     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 719 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: linear
40

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(ii) MOLECULE TYPE: DNA (genomic)

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45     (vi) ORIGINAL SOURCE:
          (A) ORGANISM: PAG1423RP

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      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:625:

```

55

GATCGAACAC AAATTCATCT ACGAACACAA ACTTGGAGCG GTTCGTGTTG GTTATATTGG 60
5 ACAGGAACAT TGACCTACCT TCAATGTTTG CGCATTCGTG GATCTACCAA TGTTTAGTAT 120
TTGACGTATT CAATCTCTCC AGAAATACGA TTTCAGTACC GAATACTGAT GAAAAGGGAC 180
10 AACCACATA TAAGAAGATG GATATTGAGC CTAAGACTT CTTTGGAGC ACAAATGGC 240
ACTTGGCGTT CCCAGACGA GTGGAGAATG TCGAAAATGC ATTGGCAGAC TATAAGGCC 300
15 AGCGGAAGC GATAACCAGG AAGACAGGCG TTGACAATAT AGGCGATTTA GATCCTAACT 360
CTCAAAATGA TACTTTGCAA ATTCAGGAGG CAGTGAACAA GTTGGCGGAA CTGACTGCTA 420
20 GGAAGAATAT CATTGATACA CATATGAATG TTCTGGCTGC GTTGTGAAA GAGCTAGAAA 480
ATAAAGGTT GGATTCGTTT TTTGAAATGG AGCAACAAAG TGACTCTGCT AAGGTAGGC 540
25 AAGCATTCAT GGACGTTTTC AAAGATGGCA AGACCAATAA CCTCAAGGAC AAGTTAAGGA 600
CATACATAAT CATCTATTTC ACTAGTTCCG AGAAGCTTCC CGATCAATTC GTCCAACATG 660
30 TTGAGAGTTA CTCCAAGAT AATAATTTCC AAACGCCAGC GTTGAAGTAC TCTATAAGT 719

(2) INFORMATION FOR SEQ ID NO:626:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 719 base pairs
(B) TYPE: nucleic acid
40 (C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1423UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:626:

55 GATCATCTG TTGAACTGCA TGCTCATGTC GTCGATGAG TACACATGAT TGAAGTCAAA 60

CAAATGTTTG CCGACTTGA CTTTGCCGC ACGCAACGTC GCAAACAATC CGTCGCTGGA 120
 5 CCGAAAGTCT GGGATGCTG CAGCCACAGA GATCCCCGCA CCGTGACCA CCACGATGTC 180
 CCGACTGTGC TGGAGCGCAT ACCGAATGAA GTGGGGTCC CGGGGCTCA CCAGCTCCGG 240
 10 GTCACTGACG TAATGGCTA GCTGAAATAC CGAGTTCGTC GCAGGCCTGT ACGTCAGCCG 300
 CGGCTTCTC CGCACGGAG CCGGGGCTT GGGCAGCGC GGTAAACGCT CTTGCGTGT 360
 15 GAGCTCTCG GACAGCTCG GCGGCTGTC GCAGGCCTCT GTCTGCTTCT TTTTGACGCT 420
 CGAGGGCGC GTGATGGCA GCTTCACCTT CATCGGCGAC CGTACCCCT TCACACGAT 480
 20 ACCACCAGTA GCCTCCGTC TCCCGACGT TCACAAACC TCTGCCGCTT GCTGCACTCG 540
 TGGTTGCCCC GCTGGTGGC GTGTAGCGA CATGAAATGA GTGACGGCGG GCCCAATTTT 600
 25 GCGGGGTTT GCTTTCGACC AATCCGGAA ACTTATCCCC CGTAAAACAA AGGCAGGACT 660
 TCGGTGTGG CGATAGCGC TTTTGTGCA TGGGCTCTG GTCCCGTTAC GCTACATT 719

30 (2) INFORMATION FOR SEQ ID NO:627:

(i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 724 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

45 (A) ORGANISM: PAG1424RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:627:

GATCTCATCT GTATTTGGAA GGAACGCAC CAGACGGGG TGA CTG CAG AAGCTGCCAG 60
 55 AGGAGAGAGA AAACATAGAA AATATATTTA TATTATCTAT ATTCA GTTTA CATAAGAATG 120

TGTGATAATT TTATGTGTTT TAGATTTCGA CTTGCGAGTG CCTGCGATAT GACTATCCTT 180
 5 TTATTTCTAGA TTCAGTGCTA GCTAGTGGCA AGGAAATOGA TATCGTAATT CCCATTTAGA 240
 ACAAGATACA AATTAGCGAA TTTCCCGGAA AAACCGGTCT TATAATACAG CATCATTGCC 300
 10 GAATOCATAC CAGTCCTTCA ATTAACTTC CGAATCAAAA AAGGCCCGGC GCGGTCTCAA 360
 GAATCTTTTC GCCAGTACTC GAATGGTGAC TATCAGCAAG CGACTCTTCA CTACCCGAAA 420
 15 CGACCAGTAT ATTTGTGTGC AGCAAATGAT TTAAGGCTCT CGAGACACTT CTTATTTGGG 480
 TCCTATGTGT TCTGTGCACG CCTGGGCCCC GATAAAGAAT GCAGGTGGCC TAATAGTAAT 540
 20 TACTAACCGT TTTTAAATC GCGGTCTTGG TTGAGACCTG TGAAACGATA ATCCCATTTA 600
 TACCAGATGA ACTGCGCGCA CTATAGTGTG CGTAATTCAG CACTGTGGAT TCCGAGTTAG 660
 25 GGTGCGCGAA GTAGCAAATT TGTGTATCCT CCATAATAAG GATATCCAAT GCCAGTATAA 720
 TAGT 724

(2) INFORMATION FOR SEQ ID NO:628:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1424UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:628:

GATCATCGTA TGCACTCAGT TGTATTCTAG CATAGCCCGT GCGATTGCCG TGATTTGAA 60
 55 CGATGATGAC AGGCAAATCA CCATGAGGAG CGAGGATTC TCCGCTAAAT TCAGCTGCAT 120

TTGCAACAAA GATGGCGTGT TTCTATGCGA GCCCCCTTCAC ACGGGCGTAA AACATGTTGG 180
 5 AAATGCTGCT CGCTCTGCCT TGGCGTGGGT GTGGCCCTCAG CCAGAGGGTC TGTTTGCTTC 240
 TAATGTGGGG GAGAGTGGT CTACTCACGT GTTCAGCGTG CTGAATAACT TGCCTATCCT 300
 10 TACAGCTGCT GACCTGAGGC AATGCACGTT TCCAAGTCCA ATAGTCTACG GGCCCGAAGG 360
 TTGTGGCGAA TGCACAGTGA TGGTAATCT ATTACTACAG CCCACTGCCA GCGTACAGAC 420
 15 AACCTACAAT GACGGCGCGT TGTACAATAA AATCAATTCC GCTTGCTCGA CCGTTAACC 480
 AAAGCTATAC CGTACCTTGT GTCTTCCTT GTTTCATTA GCGTTGCAT GTGCTTTTTT 540
 20 ACTGTGATTA CAGAGCCTTT CTGTAGAATG TGTACGTGAA TTTAATACTA GAGAGCTATA 600
 AAGCTCTCTT GTTCTGTAA TGTCTGTTT AGAAGATAAA AGGTACACC AGAAAACGAG 660
 25 GTACGACCCA ACGGCTATTG GACTACGAAC TGGACAAAAA CTAAGAGTGG TAAGTAAGAA 720

(2) INFORMATION FOR SEQ ID NO:629:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1425RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:629:

50 GATCAGCTCC CACTTGGTTG CAACAGTATT GCTGAGACTA TCATTCTTGT AGAGCGATTG 60
 TTGTGAAGCA GTTGGCCCGG TGTATGAAAC CGCGTGTTTA CCAAGTGGAG GCCTTTGTTC 120
 55 AGAAATTTTA GTTCTTCTC GAAGTATTC GTGTCTCTGG AGAATAAAGT TTGTGTGCTC 180

GACATAGTCA GGGTCAAAAA CATTACACAGG TGTGTCATCA TATGGGGGCC GGCTGCCGGA 240
 5 GGTGTGCGGA TCAGCCTTTC TGTTCGCTTC CGAGTCTCCA ACCTTCGAGA TAGCTTTTGA 300
 TAAGTTGTAG AAGTCGTCCA AAATATGTC TTCGCGGAGA GGAGCAACGC TCGAGCCCTT 360
 10 GAACAGTGAT CCACTAGAAC TTCTTGCAST AGCCTCGCCG TCAGCATTAT TGCTATTGTG 420
 TGTACTGCTC GAGTTGCGCA GATTAGATAT ATCAAACGTG TTCGATTGTG TGGAACTTTT 480
 15 ATATTTCATCA TATGCTCCAA AAGAATCTCT GCTTTGCGGA GAGCCTCGCG CTGCATGAGG 540
 AGGAGGAGCC ATAAAAGATG AATCCCTGCC AGGAGAGTTG TGTAAACGCC CAAATGGTGA 600
 20 TGCAGCGTAG TTGTCATAAA TTTGAACCAG ATCTGCAAGC GACTTGTACA GGTCCCTGGG 660
 GTTGTATCCT GCGTTGGGGT CGCCAACTTC TTAAATGGAC CCGAAGAAGC 710

25 (2) INFORMATION FOR SEQ ID NO:630:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 711 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 40 (A) ORGANISM: PAG1425UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:630:

GATCATACAC GGCTGCGCA TACAGTTGGC CAGCACCAGC ACCCGCGACA GCTCCAACG 60
 GCTAGAGACG GACACCGCAG GCGTTGTGCG CCACGACCTT TCCCGCTGGG CCGACAGCAC 120
 50 CAATGCATAC ATAAACGGCA CAGAGGCCCTC CGTAAATGCC GGCTCTCTCG GCTGGGTAC 180
 CACAGCCACT ACAGCCCTCA ATACCACCGT CGCCGCGCTG CTGCGCGACA TCGATTCCAC 240
 55

CGTCGACCGC GCGTTGCGAG ACACGCCACT TCACCGCCCC ATGGTGACCG TTGTCTCTTG 300

5 TGTAAATCGG AACAAAGTTGC GGGCCATCGA GGCAGGCTTC ACCTGGACCC ACGACCACTT 360

ACGCATCGCC CTGCGCGCGA TCCATACCGC CCGCCTTCGC GACGCTGTGC CAGAACCAGA 420

10 CCTTCCAACC CATCCCGCCT ACACAGCGGT GCTCAGTCC CTCAGTGACC GCTTAGGTCA 480

TTGGGTGAC CGTGTGCTAC ATCAGTGCTG TCGCGGGTC CGCATTGAAC TCTAGTATC 540

15 GCTTGCCCTG CTGGGCTCT GGATTCTGCA GACACCTTC GGTTCGCAA TGCTGCTATT 600

CAAGTCGCAC TCGCGTCCA GGAACTGGC CCGCAGAATG CCTTGAGCCT AATTCTTACA 660

20 TAATCTTAAT TCGCCATTCT GCTGCTCGAA CACGAATCC GCGTTAGCCG G 711

(2) INFORMATION FOR SEQ ID NO:631:

25 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1426RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:631:

45 GATCTTCTCT CCGCTGACG TCACTGGCGG CATGCAAGAC GCCATGAAT GCTGCTGCCG 60

CTCTGATCG CCTGTGTGA CTGCTAGCG OGACTGGCC TCCAGAAACC GGCCCATCTT 120

50 GTTGCATCC TGCAGCAGCA CCACCACATG CCGAACCACC GGCTGCTGG CTGCTTTCCG 180

TAGCTGAAAC GAAAGAAGAC GCCCTATAGG CCGCTGCGT AGCATATACA CCCACGGGAC 240

55 ACCATAACA GCGCTTCTAA CCTCAACCG AGTCACTGAG AACTGGGTA GTGCCATCA 300

TOGACCTCGC GATTTTTCAT TCTAGTGAAT AATCCTTACA CCGCCAACAC AAAGGCAGCT 360
 5 TCACCACCAT TCTGGCTCAA CTAGGAGGCG TGTOGGGCGA ACCAGGAACG CGTACTCGG 420
 TAAGCGGCA TCTAGTCAAG TGGGCAGTTG CAGGCGACTT CTTTTGTGT GTTATTCAGG 480
 10 GTGTAGGATG CTGTATTAG GGTGACAGG AGGTATTGCA TGCGGCAAGT CGACGGTGTC 540
 GCGGAGACTG CACGAGCGAT ACCGGATCCC GGTGATCGAT GCGGATCGA TTGCGCCGGA 600
 15 GATTATCGG CCGGGGAGC GGGCGTACCA CCGGTGGTGG AACGGTTTGA GCAACGGGTG 660
 CCGCAACTGG TGCAGCGAA CCGGGAGCTG AACCGCGCG CCGTGGGGC GTGGATCTTC 720
 20 CA 722

(2) INFORMATION FOR SEQ ID NO:632:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1426UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:632:

45 GATCTGCTCC AGCGCTGCT TGAACCAATC TCCAGAAGAG TGTCGGCTC GTCAAGAACC 60
 TTGAAGTCAA CCTCGGTAAA GTACTTTGGA CCGCAAGCCT CGAGCATGTC GATCAACCGG 120
 50 CCGGGGTGG CAACCACGAT ATTGGGCTC CTGGCTCTA GGGATCTGAA AGTTTCAGTC 180
 CCGGAGGAGC CCGCCATCAT GACAACCGCA TTGAACGGC GAAGCTTCCT GTTGGGTG 240
 55 CGCATCTCGT TGATCTGTT GAAGATCTGC GCGGCAAGT CCTGGTTGG TGCAATCACA 300

ACAGCCTTGA CATTTTCCGA AGGAGGCCCC TCCAAGAGCC GCTGGAACAG CGGCATCAGA 360
 5 AACGCAAGTG TCTTACCTGT TCCAGTTTTC GCCCCTGCCA CCACATGTG CTCGGTCTGC 420
 AGGATCGGCT TCAGCGTCTT CTGCTGCACC GGTGTAGTT TATCGAAGCC GCGTGA CTGC 480
 10 AGCATCTCGT ACAGCTCGTT GCTGAGCACG CCTCTCTCCA CCAAGGTCCG CCGTGTGCTT 540
 TCGACCCCGC CAGCTTCGTC GGCACACGC ACCACCTCGG TGTGGGGCC GAGGCTGAAT 600
 15 CCTCGGGCG CCGGGCGTC TGTACGGCCG CGTCTGCCCT GTGGCTTCCG CCACATGCCG 660
 CCGCGGGGAC CAGGCTCACC ATCTCTCCCTG TCGCTGCCCC GCT 703

(2) INFORMATION FOR SEQ ID NO:633:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1427RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:633:

GATCTTTCTA TCCGGGAAAG AGTCCATCGA ATACAAGGTG CTCTAGAAG GGCCTATGG 60
 AAACACCATT CCGGGCTTG CTGCTCTGA CCGGCGTAC GTGGGCGCA GCGCAGGTCT 120
 45 TGGCGTAGCA GCGGTCTACC CACACTTGGT CTCTCTGTTG GACAAGGAAA GCCAGTTCAC 180
 CCATTCAITC TACTGGAITA TAAATGACCT TTCATATCTG CATTGGTTTT CCATGAGCT 240
 GAGGTACCTG GCGGACCGGA ACTGCGACAT CAAAATTATT TACACGAGGA GCAATGAGTC 300
 55 GGCTAAAGAA CTGACCCCGA ATGTTGCCGA TTCCGCTCT CCGAAGTTGG TGGAATCGCT 360

GGATATCTGC AGGCTCCTCC TCGGCCAGAG TCTCAAAGAG ATCGTGAAG AGCAGATCCT 420
 5 GCTCTCGTCT AACCAGGCAC AGGACGTCAC GTTTATTAGC AGCGGCOCTT CGAOCCTTTAA 480
 TGACCATTTT CGCTATGCTG TGAAATCTAG CATCACGGGC AAACCTCCAGT GTGATGTGCA 540
 10 CCTAGAGGAG GAAAGCTACA CCTGGTAGAT AGATACCATC TTATTAGTTA ATTGTACTTA 600
 TTTATTCTCT TTCTGTATC TTAAGCAAAT CCGGCCATGT CTCAACCAGC TTCTGCATGC 660
 15 TTTCGGGATT GAGCCCTGCC TCGACCAAGT CCAGAGGTAC CTGGTTTTC G 711

(2) INFORMATION FOR SEQ ID NO:634:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1427UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:634:

GATCATCTTG TCCATGCCCT TGGGGCCAG CGACGTTCTG ATCCATCCG CGACTGCTCT 60
 40 GGCAGCAATA ATGTTGCCCT TTCTCACTTC CTGCGGCTTC TCGCGTTTTT TGAAAGTCCG 120
 ATTGCTGGCA CTGACCTTCG GTGGCATCTT AATATACTTC CTGATTCCGC GCCCCAGAAG 180
 45 CCTTACTTGC TGCTAGAGAA GTTAAGGTTG TTTGTTTATG CTGACAACGC CTAAGTTACC 240
 GTCAAACGAT CAGATTTTTG CCACTGGAAT TTCCCTTCGT ACAAAAGGAT ACTTGATCCT 300
 50 TTGATCTCCA AGAGCTGTTT CATCGGGATG GCCTGCTGAG TAGTCCCGG TTGAAGGGAA 360
 AATCGGGCT CGACAACCTG GGAAATGTCT ACGGAGGACG CGCGTTAAC AGGATCCCG 420
 55

GTGACGGCAG AGCTCAAAAA AAAATGCGCG TTTTCAGCT GGTATGAGGC GTTCAAGGGC 480
 5 CACACTCCGC GGGCCGAGGT GATTGGGCGG CTGCCCCAGG AGTTCTGTGAG CTACGTGGAT 540
 CAGCGCGGGA TCAGGCTGGC GCGCGAAGAA GGCTCGAAGT ATTTCTACGG CCAGGAATGG 600
 10 AGCCTACGAC GGACGGAGAG TACAGCGACT GCGAAGGCGG CGACAGCGCG AGTGAGCGGT 660
 CGTTCTGTCC GCTGGACCGG TGGCGGACTT CCGGAAGTG CACGCGGGG TGAAGCAG 718

15 (2) INFORMATION FOR SEQ ID NO:635:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

30 (A) ORGANISM: PAG1428RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:635:

GATCATACAC GCATTGCAGG TATACATTAT AGTGCTCATA ATTATCGGAT TGCAAATAGA 60
 40 ATGGGGCCCT TACCGTAGTA CTGTCTTGGT AATGCAGCGA CGCTCAGGCT TAAGAAGCTT 120
 TTGTCTCTCC GTGTATTACT AACAAAATAA TTCTCTGAG CACAGGGAGT AGAGATGAAT 180
 45 TACATAATCC ATATGGACAC CTCGTCACCT TCCAGCGACA TTAACATTTC CTTATGAATG 240
 CCAATAATG GTCCCTAAAT GATGTGCTTG GTGTAATGCG CATTATAAAA TGTATGTGGA 300
 50 TTATATATTG TTTGTAGCAT CTAGTAGAAC CATGGTAGCG AGGTCTTTGG CCATACCCTT 360
 CTGAAGAGAG ACATAGCAAC AGTGCTTGT GCAGACAGTC TCCGTCGAA TGTTCCTTG 420
 55 AAGTAACCAT GAGTACCAAG ACTCTCCTTA ATGAAGCCAG AGGTCACAGA TTTCTGAAT 480

AGTGGGATCG ACTTGAACCA CTCGACATCT TCTGGCCTAA AGAACATATA GCGCACTGTG 540
 5 ACGACGGGCT TGTTGGAACCT GAATGGATGG CCACTTAATA TGATTCTCTT GGCCAATATC 600
 CGTGTGTGGT CTGGGTTTCA GAACGTGCGG TGGGCCACGA ACGTCAGGCC CTTTGGATCA 660
 10 GAGGGGTTTT CTTTGAAGTA GATGGGCGGT GACTGGGTCA GGTCACAGG AAGCATGCAT 720
 GTC 723

(2) INFORMATION FOR SEQ ID NO:636:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1428UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:636:

GATCAAACCA GAGTGOGAAG CGCACAGCG GCACTGGGG GAGGCTTAC CGTAGTTTCT 60
 TGGTGGGAG AACCAAAAGT TTGTGTGAG CATCTGTCT GCAATGGGT AGTACTCTGT 120
 40 CTGACCGCTT GGAAGGCTC CGGCCCTGT GAGCTGCCA CACGCTGGC GTCTGGGGG 180
 TCTCATTC CCGACCGTA TTCTGCTGC ACGACAGCT CTAGACCACA CTTGGCCCA 240
 45 TCTGTGCAC ATACGATTAT GCTTTGTCT TTGGTATTAT CCTAGATTG GCTAGACTTC 300
 GACACTATG TTATACCAC TGTGAAGTC TGCTTCGGT GGCACCCAA GTCTGGGGAC 360
 50 TGTAATTGA AAGCGAGTT CGGGCAAAT CAAGCATCTC ATAACTGTG GTGCAACCG 420
 TTGAATGTGT GGGTGCAAC GTCAATTGTA ATTCTTTTT TTGATGAGA GATGGGATGC 480
 55

GATGAGCTAG TTGAAAAATT TTAGTATGGC AAAACTGGCA TGCATATCTG AGATGGGCGA 540
 5 TCAATTGCCG CAGCTTAGTG TTAGACGACC AATCCAGAGG TGGTAATTGG GCTATGGCAG 600
 GTCACCTGCA CAGGTGCTG GTAAAAAGG GCCACAAAAC GTTCAAGTCG AAGCATGCGA 660
 10 GCAAGGGGCG GTTGAAACGG CTGCACAAGG GCAAAGTGA ACAGGAGACC GCTGCTGGGG 720
 TGAAGG 726

(2) INFORMATION FOR SEQ ID NO:637:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1429RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:637:

GATCAAAGTT TAGCATGTAA ATGTGCAACA AACTATTTAT TACCTCTGCA CTGCCCATGT 60
 CGCTTGAAAC CCGGAGGAT CCAAACCACT GCTTTCATAA TGGAAATGCA AAATTGAGTG 120
 CAGTAATIGA TAAGTATCTT GAGAAAAGCC CTCGCGACTT TACCTTAGAT GATTGCTTAA 180
 TATGTTCAAA AGCCTCGAG TTAATAAAAA GCGTTCCTAC ATCCAAGGTG CATATAGATG 240
 TGATAGATGA GACTAACAGC ACCATTCATA AAAAGCGGAA GCGCAATTTT CGAATCATAT 300
 CACCCAGAGC AGTATACACA TCATTTTGA ATGTGCTATT AAGAAAGTTG GATAGCGTTG 360
 TCGACCAAGG AAAGGTAGAA ACCGTCCAAT CCTTTGATCA GATACTTGAG AATTTCCTTA 420
 TTAAGTTGAA AGAAGTGCAC TTTACTCTAT CTGGGGTTGC TGTGATGTAT AGCACTATTG 480

ACTACTGGAA CCCCCACATG ATCCAGGCT ACGCAAAGT TAGACTGTA GAGCATTTCC 540
5 TGGTGCAGTA TATCTTACAT CGATATGAGG TATTATATGT GCGCGCGAT GAAAGCCTAC 600
TAGATAGTCT GGTGGTGCC ACTATTGGA AGCTATTTGA ATGCATGCAG TCACAGCATG 660
10 ACCACCAGAG CCTGGTAGCG AATAGCCAGG CTGATACCGC ACGAAGAGAT AT 712

(2) INFORMATION FOR SEQ ID NO:638:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
20 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

25 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1429UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:638:

35 GATCAACCGA TAGCGGAAGG CGGACGAGCC TCGGAATAG TACTAGGCAG TGGTGGCTT 60
TGTGTTTGTAG CTGTGTTTCA AGATGTCAGC GAGAACAAGC AGGAGGCAG GCGCTCCAG 120
GGTGATGGGA GGTGGAGTA GTATGGATGG AAAGTCGGG ACAGGAACAG GGTATTTGGA 180
40 ACAGCTGAAC TCGCCAAGCA TTCAGAAGCT CATGCACTCG GACGCTTCCA CGACAGCACT 240
ATTGGAGAGG TTGAAGATGT CCTAGTGAC TTGGGTGGAG TTCACGAAGT TCATAAGAAA 300
GAAATACTTG CTAGAAGAGG GCCATGCGCA GGAGATGGGC AAGGCTTATA AGAACTTCTT 360
50 TCCGAGGGC GGTGAGTCCA GCTTGCAGAA TAGCATACAT AAGGTTTTGG AGTATGACGG 420
AAAACFTGGC CAGGTGAAC TTTCATATGT TGCTGGTTG CAGAAGATGT ACGATGAGTT 480
55 AAGTGGCTT CTGTCATCCA TGAATAAAT GCGCAAATCC CTCAGGAGA GCAGTGGCG 540

GTTGGAAAAA GAAGTGGCAG ATGCTATACA TAGCGCCGAA AAGGCAAAGG CAAGATATAT 600

5 GTCTTGTGTC ATGGATTGGG AGAAGCTCAA GCTTGTAGAT CCTGCAAAGA CGAAGTTGAC 660

ATTGCGGGGC TCAAAGACCA CTCGAGAGCA GGAAGAGGAC TTATTAGAAA GATTGATA 718

10 (2) INFORMATION FOR SEQ ID NO:639:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 730 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1430RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:639:

30 GATGCGAGAG AGACACAATG TCCCTGTGCC CACTTTGTCT ATGCTTTATC ATTTATTGAT 60

35 TCTTGTGCAG GGGAAAAC TG AAGGCCAAC AGGGAATTGT CAACCATGTT TAACTTTTTC 120

CATGTGCATG GAGCTCGTA TGTAGCAATA TATTCTCATA GCTAGAGATC TCACTATATA 180

40 TTAGCTTGGC ACATTTATGT CATATCGACG TTGTTTTTIG TACACCTTTG TGTGAGGTAG 240

CAGGGGCGCG ACATAACTAG TTATAAAAAC GATGCGCGCG GAGAAGAGA TCTACTATCT 300

45 CTCTGAGTAG GCACAGTTTC CAACGTATTA GTCCTTAATG AGCAAGCGAA TCATTCAACT 360

CATACTTCTC TCTGCCTTTG CGCGAGCTAA TTACGTGGAG CCTTCAAAT CAAATCCATA 420

50 CATTGCTTGC TCAGAGGCAA GCCATTGCC AAAGGAATGG CCATGCTGCT CGCAATATGG 480

ACAATGCGGG AGTGGGCGCG TATGCATTAG TGGCTGCAAC CCAAATTTCT CGCATAGCCC 540

55 TGAGAGCTGC GTGCCAGTGC CGGCGTACT ACCGCAATTG GAGATAGTGG CCAGCGATGA 600

TAAAGGAGTA TACCTAGAGA TGTGGGTCA GCTGCTTG GTCACAAAGT TCCAGCGCAA 660
 5 GAGCTGGCG CAGTTGTGG AGGTACATCA CGAGGAACAG CAGTATGGTG TGTGGCAAT 720
 AGACGAGGAC 730

10 (2) INFORMATION FOR SEQ ID NO:640:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 719 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1430UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:640:

30 GATCGATTG GTTACCTTGT TGTCACCC AGGTACTTCA AGAGATTCCG ACCGAGATT 60
 GTAGACAGCG TACCTATTCC GAGCGACAAA AGTCCAAAG CTTCCTTAT CCTCAACTAT 120
 35 ATTGTGGCA TCAACAGCAC CGCTAGCTG TTTTGGAGC AGGCAAAGAG CATACTATC 180
 GCCATCCCTG CTAATTGAGT TCACGAGGAG AGAGTGTTC GAGGGATTAT AAGAGATGGA 240
 40 CTGGAACAG TTATATGGCT TTCCAAAGTT TTTAGAGAA ACAATGGCA GAGAGGACAC 300
 CTCTTTTCA TAGTCAAACA TTGGACCTG CTCTCTTTG TTGACAAAGT AAAGCTGGTT 360
 45 CTGTTTACA GCCACAGGTG GTCTCTCAG GTCCAGTTA AAGACATGA TACCGAGTC 420
 ATGGCCCGG CCAAAGAGGT TCACATTAGG GTGGCCCTA ATGACCAGA ATCTGTCTG 480
 50 TTCTCTTTG AACTGTTTA CAGGAGTGG CTGTCTAGA TCCAGACCC TAATGTTAGA 540
 ATCTGGCGG ACAGAGATAA TTAGGTTTGT AAATGGGIGA AATATTACAC TGTCAGGTT 600
 55

GTTGGTATGA CCTTGCACCTT GTCCACCTCC CACGCTTTGG TGGAGCTCAT ACGCCACAAC 660

5 TTGACCTGTC TGTCTTCAGA ACCCGAGACA ATCAAGGGCA GAATGGGATG GAACGAAGG 719

(2) INFORMATION FOR SEQ ID NO:641:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 730 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1431RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:641:

30 GATCATGTTA TACAGACCTT CAAAGTTGAT ACCAAAACCC TCAATGGACT CGCTGACCAT 60
 ACTTGGTACT TCCTGTTTAG AGGCCCTGCC GCACACTTAC TGCTCTACA AGAAAAACT 120
 35 GTTGCCCTCG AATTGGATCA CCTTTTTCG GACACTAACC ATTTGCAATA CAATGCTATA 180
 TTGCCCTCTAT CAATGGTCTA TTGACCTTGT TGAATCCAAG CTCGAAATCC AGCAATGTGT 240
 40 AGAGATACTG CAGCATTTTCG GTGAGAAATG GGTTTTTCOC AAGGAGTGTG CGTCTGCTTT 300
 TCAAAATATT GGAAATGCGA TACTAGATAT AAGTCTCTCC CGAGGACAGG TAGAAAACGT 360
 45 TGATAAATTG ACTAGGGAGC TATTTGGAGC TAGCAATGAA TACCAAGATA TATTGGACGA 420
 AAATAACGTA GATATATCCT GGATTGACCT GCTATCTAA TTCTGAAAC CATTGAGAAC 480
 50 CTGTTTAAAC TATTTGGCAG TAATTCATAA TGTATTGGTT GTTCATAGC TGAATTGCTA 540
 TTGCCGCTAT GGAGTTGCTT ATGCAATACA CCGGTTAGTG GGTGATTGTC GTGTCTTTAT 600
 55 ACCCAAATA ACCGAATCCG GTCTTAATCG ACTCCGCTAG ACTTTGTGAT CCAGTAAGAC 660

ATGTCCTTACA CGCCCGATTG ATGGTTGTAA TCTTTAATCG ATGAATGAGA AATGGTATAT 720

5 GTATGTGACT 730

(2) INFORMATION FOR SEQ ID NO:642:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1431UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:642:

30 GATCTCCTGT ACCATCATGA AAGTCTTTT ATCACGGGAA AACCGTTTC TCAGGCACAT 60

CTGACGCAGT GCTTGTGCA CATCAAAGGT CAAGTTCGA TCCCTTGTA GCGCTTCAA 120

35 CTCCAGAAC TCCTTCGCA GATTTTATAC TGGCGCGGC ACAACTTCG CCTGCCCTG 180

GCGCACATAT TTCTTTAACA CCTCCTCGG AATCTTAAAG TCCTTCACAT TATAGCGACT 240

40 TAAGAGACT TOGAATAAGA AGAGGCACCT TATATATAAG TTGACATAT CCAGTTTCAT 300

CTGCACCCC CGCAGATCA GTCCCGGTA GTCCAAGTC GCTTTCTTC TTGAATTCT 360

45 AGAGCTCGC CCGAGGATG AGCTCGCTG ATCAGAGGTG CCTGTCTCA GCGAGAGCTG 420

TGGCATACT GCGTGTGTG CAAGCTCAC CTTCACCTG TTGGCAAAGT TCACATTTAG 480

50 GCGCTGCGA AAGCGTCCA GTGAGCGAA GATATGGTTC ACCAGCTGA GTGGCATGCG 540

CATCTTGTTC ACGTCCAGT ACAGGTTCCC TTGGCTAGC TGGTCACTA GGGCCGCGT 600

55 CTGTGTGAGT TGTGCTGCC ACACAGAGTC CAATTCCACT CGCATCATGC GCATCGCGTG 660

CTTCAACGCA CGCTCACTGA TCTCCCCCTCG CTCAGGCATC TGTGGAGCCT CTTCTGGGCT 720

5 TC 722

(2) INFORMATION FOR SEQ ID NO:643:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1432RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:643:

30 GATCCAGGAC TGCCGTGCTT GGTTCGGCTC AAGGGAGACT TAGAAATGAG GTGTTGGGOC 60

GCATTCTGGG CTGCAGATAG AAACGAAGAC AAGATGCCAC CGTTACCCAA TTCCTCAGCC 120

35 CCAGAGAAAA AATTCCCGTA CCGGTGCTTC CCAGTACCAT CCTGGTCAAA GGTGTGATA 180

TCCGAAAATT TATCCTCAGT GTCTCTCTTG TATCCTGCAT CCGAGCGCGT GCTTTGGCCC 240

40 GCCCCCGGGG GCTGGCGGOC CGGCGCAGAC CGCACATGG AGTGGCGGOC GTCATCTCA 300

ATTGGCATGC TGAGCGACGA CGAATTGCTG TGCCCCCGGC TATGCCAGCT GCGGCGGTCC 360

45 CCGCCACCCC ACCCCAGGCG GAGCGACGAG TTTGTGCTGT TCGCGTAAAC CACCGGTGCG 420

GACATGAGCC ACGATTCTGC TCTTGACACC CGGCTCTCCA CATCCGAGCC CTCGCCCGCC 480

50 GCCACCTGGA CATCACCGGC CTCGGGCCCC GTCCGCGGCT CCCCATTCCG CGTCGCTACC 540

CGTCTTTTGG CACTGCTGCG GCGCCCCCTC CGCGCGCCCT CCCCCTATG CTCTTTGAAA 600

55 AGTGGCGGCG GCTCTCTCTG AGCGACCGCG ACCGCTTCCG CTGCTCTGCC ATCCTTGCTA 660

GCCTCTGCTT GAGAAGAGCA TCTACCTCTC CTCCTGTGTT ATTCCGCGGC CTTTTTGGA 720

5 AACA 724

(2) INFORMATION FOR SEQ ID NO:644:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 615 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1432UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:644:

GATCCCGGTC GCGCGCTCTT CCTGGAACAT GTCTGTGACC CCGCGCAGCG GCTGGAACAT 60
 30 CCGGCCACCC CCACCGTACT GCGCGGGGAA GAACTGTGTG TCCACCAAGT GTTCGTGGCG 120
 CGCTGTGTC GCGCGCGCA TATTCTCTC CTCCTGTAA GCTCTCTCT GCGAGACTC 180
 35 CCGCACTTC TGTGTGTGT ACTCCGCGG CCGCGCGCG CTTCAGGCG CACTGCGTGC 240
 GCGAGCTGC GTGTGCGGC CGTCTCGAA GTACAGGAG ATTGCGTTT CCACGTCCC 300
 40 ACCTGCCATA TCCAGGAAT GCGCGGCG CCGCGGTG GCGACCGC AGATGCTTTG 360
 GAATACGCG AGCTGCTGT CTGAATCAT GCTCTACTT TCTGGCGTG CCGTCTGTG 420
 45 TGGCACATC AGGAGTTGT CTGAGTGT CCGTGGCTC AGCTTTTAT ACCGCGCGT 480
 GCGACATG CCGCGCGCC AAAGCTTAT ACATATACAT GCTACTTAGT CCGCGCTTG 540
 50 GTACCCGCG CGTCTCGAA GCGGTGTG GTGCGCTGA AGTGCACCG CTGATGCGG 600
 CGGCTCGG CCGG 615
 55

(2) INFORMATION FOR SEQ ID NO:645:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1433RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:645:

GATCGATGCG GACCACCGTG CGGAGGAGGC CGCAGGTGGA TATGCAGTTT GCGGCGCTGA	60
GCGGCGCGAT TTGAGAGCT CGGCGTCCG CTGGGTGCC CGCTTGGCG AGCCACGGAA	120
CCAGCTGACG CGAGGTGTCT CCCCCGCGC TGGCGTTTG CCGACAGTG CTGCCCCCT	180
GGTAGTTCTG TAGCCACGC GCGCGTTAA TCTGGCCAT TACGTAGCC AGCATCTGCA	240
CGAGCAGCG CGACTGCGC ATCTTCTGTA TTTTGAGCAG CTGCGCTCG ACCTTCTCGT	300
CTGGGTGCG CATGTCCGG CCCAGCCGT ACTGTTCTG CAGTCCAGC TCTGTACGT	360
ACCGTGCTAT TTGCGCTCG TTCAGCACTT CGTCATTCT AGCCACCGT ATTCCAGGA	420
GCTTGATAT TCGCCCGGT TTCTGTAGGA GAACTGGTA GCGCCGATG ACCTTACGTG	480
CTTTGGATGG TTTGATTGOC GCGTATGTT TGACGGCGT CTTGCCCCGA ATGCTTCTTC	540
GCTTCTTGGC CAGCATGTAT GAAAGTTAAA CGCAGTTAC TACTGGTACT AGATATGCCC	600
TGGAATGCC ACCCGATGAC CTGCTGTTGT ACCTTGCTTT TGTATCAG ATGCTTGGAG	660
CTGAATCGTT GAAGAATTTC GAGTGAAA	688

(2) INFORMATION FOR SEQ ID NO:646:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1433UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:646:

GATCA	CGGAA	GAAGG	CAAGG	TCAAG	AAGGT	TACATT	TGAT	ATCGAG	CCGT	ACAAG	CCCAT	60	
CAAC	ACTA	AG	CTATA	CAAGT	GTGAC	AATA	GTTC	CGGAC	GAGGT	GCTCT	CGAG	CTGCT	120
GGAG	GCTG	AC	GAGA	AGTTC	GGTTC	ATTGT	GATG	GATGT	CAGGG	TGTC	TTTT	CGGTAT	180
GTGT	CCGT	AAC	ACCCG	GA	CTGTT	CTACA	AAAGT	TTCACT	GTGG	ACTTGC	CGA	GAAGCA	240
CGGT	AGAG	GT	GGTCA	ATCCG	CGGTG	CGTTT	CGCCG	TTTG	AGAG	AGGAGA	AGAG	ACACAA	300
CTAT	GTGCG	AAG	TGCG	CTG	AGGTG	GCAG	AATTC	ATC	ACAA	ACG	ACAA	AGTTAA	360
TGTT	AAGGG	CTA	ATT	TTGG	CTG	TTCTG	CG	ACTT	CAAG	ACG	ACTT	G	420
ACTG	TTT	GAC	CTG	AGG	TTGG	CAG	CCA	AGAT	TG	TGA	AGATT	GTAG	480
ATG	AAAT	GGT	TTCA	ACC	AGG	CTATT	GAGCT	GTCCG	CCGAG	GCG	CTG	CCCA	540
CATT	CAGG	AG	AAG	AGT	TGC	TCAC	CGAG	TA	CTTT	GAT	GAA	ATT	600
ATT	CTG	CTAC	GGT	GTT	GACG	ATA	CT	CTG	AA	ACG	CTAG	AT	660
ATT	G	GTTT	G	AAA	ATCT	AGA	GATT	GTT	CCG	GTAC	GTTT	AAG	712

(2) INFORMATION FOR SEQ ID NO:647:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1434RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:647:

20	GATCAGATGC TTCTGTGGTC CTAGAGAAGA CTGCTATTCT TAACCCCTCG TCAACGAATA	60
	TAGCCGAGGA CGAGTTTGTC GATGCCATAG CGGAACCTCC ATCGGGGTCC GTGGATAGTA	120
25	CGCCTTATGT GACCGCGGCG CGGATTATT CCTGGGAAGA CACCGGGGAA CGTTCTGAAC	180
	CTACAATAAC GGAATACAAA ACTGCAATTG AATCACCATC CACCTTTGGC GACGATAACG	240
30	AGAGTGTATT TCTGTAACT TCTGCCGACC TGCATCCATC GGTGTCTCT GCGAGTCAAA	300
	CATTACAAC GGAAGACCTT CAAGCCGTTG CGAACAGCCA CCAATATAAG ACCGAGGTCC	360
35	AGATTGTAAA ACAAGACGAA GATGAAGTAG AGGATGTTCT AGAATTGGAC TCGCCACCAG	420
	CATCTCTGTA TGATGGTGAT GTTTTGAAGG AGGAGAGAA AAATGATAGT AGCAATGTTA	480
40	TTCCTGATGA TTCCATAGAT ATCGATGAAT ACCTCGATGA AAAGTTGGTT AAAAAGTTCA	540
	CATTGGAAAA CGCTCTTTCT TTAGATGAAA TCTTCGACCA TGATAATGTA GTTTTGGAG	600
45	AAGAGAAGCT GCTTGTGGAT CCAGACCTAG AATTCGCGA ATTAACTGGA ATGGAACAAG	660
	ATATGGAATC TGAATATCTG CCGCTGATTG AAAATGGTAC GGAGGCTGTT CTACAA	716

(2) INFORMATION FOR SEQ ID NO:648:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1434UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:648:

20

GATCAGGTTT TCCGCTACGT GAGAACGTAT CTAAGGCACA AAGGGCTTTG GCGCACTGTG 60

CGGACGCTTG AGTTGCGAGA TACAGGACAA AGCTGTTACG GCGGCAACTG GTGCAGCAAG 120

AGCAGCCGAG GAGCGATTCT GCGCGAAGCG ACGGTGAATT CGAGCCAGCT GGTAGCAGGA 180

25

GTCCCGGATC GTCTATTTAG TTGCGACGGG CGTUGGAACA GGATGCACGT AAACGTTGCG 240

GTAACACCGG ACCCTGAGCG GACGGCTGCT ACCCCGATAG CACGGGAGCG CAAACGACCG 300

30

CAGCCGCTGT CGCCAGAGAT GTCTTCACCA CTGGCGGGTA GCAAGCTGCA GCGGCGGAAG 360

CAGACACTTG AGGCCGGTCC GGGTCGGGCC AGTGGGACAC ACACGGTGGA CGAGCTGCCC 420

35

GGCAGCTGG AGCGCGGCTG CGAGCAGGCG TOGGAGCGGA ACCCGCGTGA CTGTATGCG 480

GTGCTGATCG GGGTTGGAT CCTACAGTCG CAGGAGGGCA AGCTGACCTG TOGCAGATAT 540

40

ACCGGTGGAT CTCGTCTTC TTCCCTTACT ACCGGCTGTG TGACGCGGGG TGGCAGAACA 600

GCATCCGGCA CAACTGTGCG CTGAACGAAG CGTTTGTCAA GGGCGGCAAA TOGCTCGATG 660

45

GCAAGGGCCA CTCTGGGAG ATCAAGGCAC TGTGAAGGCG CTCTCCGCG ATGGG 715

(2) INFORMATION FOR SEQ ID NO:649:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 538 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1435UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:649:

15	GATCOGATGC TACCCGTGCG CCTGCCAACC CGTTGCGCTA GCGTTGACGC CTAGGTCTGA	60
	AACTGAACAA CAGGTGGCAT TGTTGGGCGG CCAGCAGGCC CTGGGCGGAC CATGCCGCCA	120
20	TGGGCGGCGA ATAATACCAC CAGTTGTGAA GCCCAGGTGT CTGTAATCTG CACCGAACAT	180
	CTTTATCTAC CAAGGAGGAG CCTTGAAAAT TATATATCTA CCCCTCCCCC TAATATATTT	240
25	GACCAATTGG CTCTCCGGA ACCGAATGAT CGAAGACGCC ATCAGGGCAG CGGACAGCAC	300
	AGGAAGTGAG GAGTGATCTC GCAGGTACGA TGAAGCACA GTCTATACAG TCTATTGGT	360
30	CGAACCAAG CGTACGGAGC ATCSCGAGCA CGAGCGGAAC CGCAGACGAG TGGCTAATCT	420
	TTGAACGGAG CGTTGAGGAT CGTTTGGCCC CGTGAAGGAC GCGAAGGGTT GCAGCCTGTG	480
35	TGGTGTCTCC CAGGCAGGCT CTCTGCACGC CGGGGTATCG GCGACTGGGG GCGCGTCT	538

(2) INFORMATION FOR SEQ ID NO:650:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1436RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:650:

5	GATCAACCTC GGAAACGTAT TTAAAAGCTT GTACTCGACA TCATTAAGTC TTCTCTCTGT	60
	TTCTTTTGGT AAAGTATWAG CATCCAGTAA AGTAACAACG AAATGCAATG CTGAAAGATC	120
10	GTATACCCTA GACGACCTAA ATGGGGTATT TTGATCATCC ATACTAGCTT GAAGATCAAT	180
	GAAGTCAATA ATAGTGTGTA CAGACTCAGG GGAGAGTTTG GACTTGATGT ATTCTCAAA	240
15	GCCAGTCCAT CCCAOCCTTC TAGCACTAGG AGTAATCTTC AGCGATTCTT TAAACGGAAT	300
	ACTTCTGATA AAATCCTCCA GCTTTTTCCT CTCGTAAAGG ATCTGTACAA AATTAGCAAG	360
20	CGGGTGGTA TCCTTGTTAA TTATGATTCT TCCAACCTCA ATGACCTTGT GGTGGGGAT	420
	TTTCTTGATA AGCTCACCAA ATACCATCGG AGATTTTTC AATACTTGA CCATTAGAGT	480
25	GACCAATAGT TCGTTAATAA TCGCCTTATT TTCAACCATA AGACTGAAAT GCTTCGTTTC	540
	TGAGATCAAA GTCAAGGCCA AATATTGGG AACAATATTG TAATCATCGA AGAAACAATC	600
30	ATGGAATAAT TCGAACATAG GACTGGAGCC AAACCTCTCT CTTGATAAGA ACAGTTCAAT	660
	ATCGAGCTTC GATACCGATG TGAGATATAA CAAGGAGTTC TTTGAGTTTG GGAGTACTTT	720
35	AGAGACTT	728

(2) INFORMATION FOR SEQ ID NO:651:

40

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

45

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1436UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:651:

5	GATCCAGAAG ATTATCCGAC AATATTAGTG ATATCAAGGC ACAGATCGCT GCCAACACTA	60
	GAGGTATTCA ATTGCTTAAC CAACTGGTTG ACGTTTTCGG TCTAGGGACT GTTACAAGGT	120
10	ACATGGACGC AATTCAGGAA AATGCAGCTC TTACTGTAAA GAATGTCTTG CGAAAGATTA	180
	CCAAGCATTT TGGCAAAACC GTCTATTTCG CCGAGGATTA TATGGATGAT GGCTCTGTTA	240
15	TAAAACTTAG GGTGGAGCTA AATGCTAAGG AAGATAAGTA TATTTTTGAT TTTACGGGGA	300
	CTTCTCCACA GGTCACGGT AACCTCAATG CACCTGTTC TATTACCAAC TCTGCCATCT	360
20	TATACTGCTT ACGTTGTTTT GTAGACGAAG AGATTCCGCT CAACCAGGGC TGCTTAAAGC	420
	CCATTACTGT TATTATTCCA GAGAGCTCTA TCCTATGGCC GACCAAGGGT GTGGGGTAG	480
25	TGGGAGGTAA TGTCATGACG TCTCAGCGTG TAACTGACGT AATTCTCAA ACTTTTAAAG	540
	TCATGGGGGA CTUCCAAGGA GACTGCAATA ACTTTACTTT TGGGACAGGT GGGAAAGAG	600
30	CTTCTACCGG TGAATATACT CAGGGTTTTG GATATTATGA AACCATATGT GGGGGCATG	660
	GTGCAGGTGG AGATCATGGC GTGGTCCGGG GTGGCATGGA ACACATCTTG TTC	713

(2) INFORMATION FOR SEQ ID NO:652:

(i) SEQUENCE CHARACTERISTICS:

40	(A) LENGTH: 587 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
45	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50	(A) ORGANISM: PAG1437RP
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55	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:652:
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GATCGCGCGC GAGCTATCGC TTCCGCCCGT CAAGCTGCAC TGTAGTATGC TCGCGGAGGA 60
 5 CGCCATCAAG GCCGCCATCA AGGACTACCG CAGCAAGCGC AAGGCGACCG AGCTGCGCTG 120
 AGCGCAGGCC GCCGCAGCCT GTCCGCCGCC GCCCGCGGCC AGCCGCAGAG GGACGTCCGC 180
 10 GGGCCGGCGA GAGCCGCCCG TTTTCTATGT AGCGACTCKA GCATCTAATA GACATGGTAA 240
 TAGCTTCTCG TTTTCTAGT TTGCACACAG TATACAAAAT TTTCACCGAG CTCATCGCCA 300
 15 CTTCCTCTTG CTGAAGCGCA GGTACGGCAC CAAGACCTCG GCTATGTCTT CCACTCTCTT 360
 TGACGACATC TTCAAGATCC AGGAAGTGGC CCAGGGACCG TACAATAAGG TATCGCGGAT 420
 20 TGAGGCCATC TCCAAGTCGC AGGACACGTG CAAGCTGACG CTGGATGTGA ACACAGAGCT 480
 CTTCCTGCTG CAACCACAAC AGCAGCTAAC GGTGATGCTG GCGACGACAC TCAACCTCGA 540
 25 CGGAACGGAG GACAGCCACG GGTCTCTGGC GCTCCGCC CTTGGGG 587

(2) INFORMATION FOR SEQ ID NO:653:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 260 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1437UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:653:

50 GATCCGGCGG GACCGCTACA ATATTCCCAT ATGTATTAYA GGCAACTTTA TACCATCTC 60
 CTAAGTCAG TACGTACTGT TTGTCAGTCT AGGCTCTCGC TCGCGGTGAG CCCCCTGTTG 120
 55 CGGTCCACCA GCGCGCGAC CGCGCGCCCG GCGCCGACGT GCAGCGCGGC CGTCGCGCCC 180

GCCTGCACCG CCGTGGCGCA GCCTGGACG AACTGGACCA CGTTGTGCT CGAGCGCACG 240

5 AACTTCTCCA CGGCCAGTC 260

(2) INFORMATION FOR SEQ ID NO:654:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1438RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:654:

GATCTCTTTT TAACGGCTGT TACCAATAAC GATACCGCAG CTACATCTGG AGAATAGTCT 60

30 GCATCCCATG CCTCCAAGTT CCGTGAACA TACTCTGGG GATCGACCTC GAAGCTCTCC 120

AAGGTCTCTT CCTAGGACA AAGAAGCGG AAGATAACAT GTTCCAAAAT GGTGCATAA 180

35 TGTGGGTCAA CTATGGCCA AGTAGACTTT TGAACCACTG TTTGTTCAT GAATCCAAT 240

ATGTAATATA GCGACTCTT GCTTAACCAC AATTCCCTG CACCCACCT TTCAATCTGC 300

40 TGGAAATGCA ACTGCAATAG TTGCGCAGA AACTGCTCCA CATACAGCAT TTAAATTCA 360

GTGTACTCAA ACTTTTGTCT GAGAGATTCT GAGGCATAAC GTTGAATAA TCGATACATG 420

45 TTAGCATATG CCCACTTTTT GGCTCTGACC CATGGATGCG CCCGCTATC ATCGACCGCC 480

AGCGCCATCA CATGCTCCGG CAGCTGGCTT TGTATCACAG AAACATGGAA GTTGGCCAC 540

50 GGAATGAAGT TTTCGACCG TTGGAGAGTG AACGGCAGT CATTATATGT CACAACTTG 600

TAGATCTTCA GCACAAGCTT CAACATATTC CCCAGATCT CGTTGTGCTT TCCTGCTGT 660

55

ACAAAAGCGC GTTTCGGTAG TGCAGCAAGT CTGGGAAATA TCTCATGATC AGCATCTCCA 720

GCTCCTGA 728

(2) INFORMATION FOR SEQ ID NO:655:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 774 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1438UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:655:

GATCGGCAAA CCTAATGGGT CTGGACGTAA TGTAATCCAA CAGCGACTGT AGAGCTGCGT 60

GGGTTCTCC GACAGAAATC AGTCATCTG CCGCTTCAA GCGTTTICA GGGCGCAAAA 120

CAGGTGGAC CATGCTGAAT TAGAGCTATT TGGTACCTG TTGAGTAGT GTGACTTCC 180

TTTGAATGTG GTGAACTTG AAGTAGGTTA TTCAACTAGA AAATTTTICA CCCAGAAGGA 240

TGCGCTCTAT CAGCGGCGGT GTCTGACGAT GATCTCAACC GCGTAAAGGA CGAGAAGTCG 300

TAGGTGAGT CTAATCTACT ATTGGTACTG ATGAACGGGA CTGGCCAGCT AACGTGAAGG 360

CACTGTCTGC GGGATGAGGC CCCAGCGCCA GCGCACGGGC CCTGGGATGA GCACAGGTG 420

CCTCGAGACG ATTGCGATCG GCTGACGGGA AGCCAGGTTT CCACAGCGTT GCGGACTCG 480

CGTCGTCAGG CTGGAACGTG AGAAGGGTTG TCTTGAGCTC CGCGCACGCC GCACGCTGCC 540

CAGGTAGCTG GCGGCGCGTG TTCAATGCCG ACAGCGGTGG GCTGCTGTG ACGTGGCATC 600

GAATATGTCA CGTGATTACA CGCAGCAGGG CATGCGAGAC AATGCGCAAG CAGCAACAGG 660

AGGAGGGTGT GATCGGTGGT GTGCGTTTAA GAGTATGTGA GCTGTGCAGC TGGCTCCCCA 720

5 TCTCTGGGTT TACTCGTACC TGTCGCTTA TATAGGCAT: GCCAAAAGGT TTCC 774

(2) INFORMATION FOR SEQ ID NO:656:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 728 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1439RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:656:

30 GATCCTGTTC GAGTCTTGC AAAGTCGTGG TCACCCCGAC CAACTTCTCC TCTGTAATAC 60
 CGCTGTACTT CGTTAAGTAG TCACAATGG GCTCATCTGG CTTGACAAAC TTGTCATAAA 120
 35 CTAAGTTACA ATCAAAATCG ACGACGCTCA CACGGGTCAA CAGTATCCG TTTTITGAAA 180
 GGCACATCTC ACAGTCGATG GCAAACGTGT GAGAACCGTC GTGTTGGAAA CTGACAGTGT 240
 40 CCACCCACCC ACTGTACTTC TCCTTATCTT GATACCTTAG CAACAAAGCC TTTTGGTACT 300
 CCTCCGATAA GCCAGGTGTG TTTAGATGGA TGGGTACTC ATTATGCAAT AAGTCATCAA 360
 45 CGGTCAATAG CAAATCAAGC AAAGTGATTT CCTTTTGTGTT CAATGTGTCC ACCTTTGCGA 420
 TCTTCTCCTT TTTTGACAAG CCTACATTGA CAAAAGAATT GTATGCAGAA AATAGGGAAT 480
 50 TCTTTGATCC CGGCGCTGAT AACGGCAAGA TACACATTTG CTTGCACATC TGTTCATTTT 540
 CACTAATCGA GTTTAGATGT GCGTCTTGCA ATTTCCGAAT ATTTTATGA AACAAATGAAT 600
 55 CCTTCGGTAG ACTGAAGTCC TCGGGTAAAA GGCCTGGAGT GAATAAGACG ACCACCTTCT 660

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TCAAAGAGGC CTATTTTCTA TCGTAATCCA GTTGGGAGAG TTGTTCTGTAT CGTGAATAT 720
GTA CTGGA 728

(2) INFORMATION FOR SEQ ID NO:657:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 694 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1440RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:657:

GATCTATTTCT TCATTGAGCA ATCAACAAGA GCTGGTGAAA CTGGGCAAG AAGCTGAGCA 60
AAGCGGTAAA TACAACITGG CATTCATGC ATACTGGATT GCAGGAGATA TCAACAAGGC 120
CAGGGACGTG CTITGGAAGA GCGGACGCCA TTGCGAGGCT GTGCTTCTGG CATCCACATA 180
CACCTCAGAC AATGACGCCA TCAACGCTGC TGTAGAAAAA TGGAAGGAAC AACTGAACITC 240
AGCTGGAAGA GTATCTATCG CAGAAAGAAT TATACTTTTC GGAGAAGACG ACTTCCCTGC 300
AGCTCCCCAG ACTTTGGTGC AAATGGATGA CGGATCAGAG TCCGCGTCTA AATAAACTAT 360
AATTTTAAAG ATAACAGCAG GAATAAATTA ATTACCACGA AGGAAATTTG TATGTACATT 420
CTAACTAGAC CCAATGGTAG AATTTCAITG CGTAAACACG GCAACCTTAT CAATATCTTT 480
CCGTTTGTC AGTCGACAA AGTAAAGTTC TTGGATTCA GATGGGCATG CTTCGGGCTT 540
AAAACGGCGC ACTTTGGTGA ATACCTTTTC CAGAGCGCGT TCTAATAGCT GGTCTTCCTT 600
GCCAGTGTAT AACTTGCAA CGAATGAGC ACCGGGCGCT ACAATGCAA TTGCACATAG 660

CAGTGTGCG TTCACACAAG TCCATCGACA TGTA

694

5 (2) INFORMATION FOR SEQ ID NO:658:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1440UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:658:

30 GATCCTACAG AAATAATCCA GTACAAGGTA CCTCTAATCT ACTGTGTAA CATGGAAAAC 60
 ATTTCGCTT TAGGCTTTTT CTTTCACCG AAAAGGTAAC GTGTGAAA CATATATCAC 120
 GGGTTCGAAA CTGACTAAGG TTGCTCATGC CTAAACCAGA TAGGCAGCAA TGGCAAGGGG 180
 35 CTTGAGGTGG TACCAGAAAA GCTGCCACCT CCTGCTGGT GCTTACTCTC GCAAACGGTG 240
 TATACTATTA GTGTGGAGT ATTTATGCT TATTAAATAA CGAATTGTG GGCCTAGAAG 300
 40 TGGGATTAT CACTGAGCAG CAGCGCTTG CAGCCAGAC TGCTCGGAA GCGAGCAGG 360
 TGCGTTGAG GCAGGTTTA GAGCTGCAGC CGTGACCATC AAACCTGCG CCGGAGGAC 420
 45 GAGTATGAGG GCTAGCTGA GGCGCATCAA GAGCTTCTTC GATATCCGC AGACCTTGCT 480
 GAAATACTCG TGGGAGTGA CCGTGTCTTC CACAATCTTG GTTGAGACAC GTATCAAGGC 540
 50 CACTATGAAG CGATGCACAT ACCTCTGGC GATGGGCCAG CGATCTGCA CCGGACCGT 600
 TTCCGAAGGA GGCAATTTTA GCGTGAGGCG GAGTAACAAG CAGCCCGGG TCTGGTAGAC 660
 55 TATGGGCGCA AACATGCATT TGGGTTGAT GCGTCTAGG TACTGGTAT AC 712

(2) INFORMATION FOR SEQ ID NO:659:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1441RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:659:

GATCGTTAAT TGTAGCAAGC GACGACCAGA GATGGTCTAC CAAGGCCGTC TAGCAGAG 60
 CACGCAAGCA GTCCGTCCCC AGGAGCAAGC CCCCAGGAC AGACCAAG CACACTTGCC 120
 GGGTCGACC AAGGCCCTCA CTACCGATC CTTAGAGCA ATCCTTATCC CGAAGTTACG 180
 GATCTATTTT GCGACTTCC CTTATCTACA TTATCTATC AACTAGAGG C TGTTACCTT 240
 GGAGACCTGC TGGGTTATC AGTAGACCT GGCATGAAA CTATTCCTTC CTGTGGATT 300
 TCAAGGGCG TGTAAAGGC ACCGACCCA GCATAGATC TGGGCTCTC CAGCCATAAG 360
 ACCCATCTC CGGATAAAC AATCCGGG TGATAAGCTG TTAAGAAGAA AAGATAACTC 420
 CTCCAGGGC TCACGCGAC GTCTCCAC TCAGTTAAGT TGGGTGAAG AATCCATATC 480
 CAGGTCCCG AATATTAAC GGATTCCTT TCGATGGTG CCTGAAAAT CAGGCTTTG 540
 AAACGGACTT CCCATCTCT TAGGATGAC TAACCCAGT CCAACTGCTG TTGACGTGA 600
 ACCTTCCCC ACTTCAGTCT TCAAAGTTCT CATTGAATA TTGCTACTA CCACCAAGAT 660
 CTGCACTAGA GGCCGTGGA CCAGCTTTA CAGCTAGG CTTGTCCT GA 712

(2) INFORMATION FOR SEQ ID NO:660:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 718 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1441UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:660:

20 GATCCAACCG AACCTTTCCT TCTGGCTAAC CTAGGGTACT TGTACTCTAG GCGAACCAGG 60
 ACTTTTACTT TGAAAAAATT AGAGTGTICA AAGCAGGGGC AAGCTCGAAT ATATTAGCAT 120
 25 GGAATAATGG AATAGGACGT TTGGTTCAT TTTGTTGGTT TCTAGGACCA TCGTAATGAT 180
 TAATAGGGAC GGTGGGGGC ATCAGTATTC AATGTTCAGA GGTGAAATTC TTGGATTTAT 240
 30 TGAAGACTAA CTACTGCGAA AGCATTGGCC AAGGACGTTT TCATTAATCA AGAACGAAAG 300
 TTAGGGGATC GAAGATGATC AGATACCGTC GTAGTCTTAA CCATAAACTA TCCCGACTAG 360
 35 GGATCGGGTG GTGTTTTCTT ATGACCCACT CGGCACCTTA CGAAAAATCA AAGTCTTTGG 420
 GTTCTGGGGG GAGTATGGTC GCAAGGCTGA AACTTAAAGG AATTGAACGA AGGGCACCAC 480
 40 CAGGAGTGA GCTTGGGCT TAATTGACT CAACACGGG AACTCACCA GTTCAGACA 540
 CAATAAGGAT TGACAGATTG AGAGCTCTTT CTTGATTTTG TGGTGGTGG TGCATGGCCG 600
 45 TTCTTAGTTG GTGAGTGAT TTGTCTGCTT AATTGCGATA ACGAACGAGA CCTTAACCTA 660
 CTAAATAGTG CTGCTAGCAT TTGCTGGTIG CGCACTTCTT AGAAGGACTA TCGGTTTC 718

(2) INFORMATION FOR SEQ ID NO:661:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1442RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:661:

20

GATCAATTGC GTCTTCATCC GATGAGACAT TTTGAAAATT GTTGAATAT TGGGCAACAT 60

CAGGGTATGG TAACACCTCC GGTTCATAAC TTCTAATCGG TAGCCTGTC GCGCGTGTA 120

CGCATGGATC ATCAATGGAC GGTGCTGGG GCGATCTAGA CAGCCCGAA TTGGGGCTTG 180

25

GTGTGAGGTT TTGTCGGA CTCTCACTT TATCAGGTAT GACTATCACT TGATGATCA 240

TTAGATTCCG TGTATCCACA ACATGACGT GCGTTTGGTG TTCCGAGATA AATAGTAGGT 300

30

CATCAAACGA GCGGCTAAAC TTGCACACC TAAAGGACC GTTCTGTGCA TGCTTTOGAG 360

TTGAAGGTAT CTCGCAAGA GCGGTGTC TTTTCTCAT ATGTACACC AGACAGAGGC 420

35

CGTTTTGGAA TATGTAGCC ATGTGACGT CGTTTTOGCT ATAGCTTGIG TAAAGCCGT 480

TATCACCACC AGGCGAATCG TAAATAGAT CTAGGACTTC GGATCTATCG ACCGGGCAT 540

40

ACCTTGGAAC GCACTTTGIG CCGACCAT TGAACCCA CTCAGGAGCG GCGTCATATT 600

GTAATGAAAA ACAACCGCTT AGTTCATCTG TCTATAGACC GCAAACCTGC TGAATCTCC 660

45

CGAAACCACC ATGCTCTTCC CATGCTGTGA TATGCCCAG CAGTTTAAAG CAAATTTTAA 720

GT 722

50

(2) INFORMATION FOR SEQ ID NO:662:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1442UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:662:

GATCAAGGCT GGGAACTTGG CGTTGACTGG CTTGGCCTGC GCAGGCTCTC TGTTCGCGCT	60
CTTGGCGGCT CTGTTGCGGC CCTTGGCGGC TCTTTTGTIG TCTCTCTGGT CGCGAGACTT	120
AGGAGCAAAG GACTGGGTGC CATCAAATC TAGGAATGC TTGGCCTTCA AGTGCTTGGT	180
CTTGACGTTC TTGACCTTGG TAGCCTCCAT GAAGACCTCC TGCTTCTTAA CGAACAATC	240
AGCGTGTG AACTTCTCGA CCTTCTGGC GACAGGGGCC TTGTTGAGT CGGAGTTCTG	300
CTGCTCCAAG TAGCCTCCA AGGTGACGGC AGCTGCAGTG GCTGCTCTT CCTGGCAGC	360
GTGGCGGCC AACTCGGCT CGGCAACAGC GGCACCAGC TCTCATGG CCTGCTCTT	420
CTGTTGTG CCCCAGGCT GCTGATCTT CTTGGCAGAG TCAGTCTTGC CGTTTCTGA	480
GTGGGGTCA AAGTCTTTC TGCTGTCTT GGCTGGCTTG CCTGGCGCAA GAGGTCTCT	540
GGACTTGTTC TGGAACGGC CGGCTGCTT GTCTCTGAAC GCAGCTCTGT TGCCGGTTGG	600
CTTTGGTCTG TTGTTCTTGG CACCGATGG GTGGCAGAT GGAGGAGCA CGTCCGCTT	660
CTTGAAGAG GTGGTCTTCT TCACAAGCTC CTTTGGAGGA GACACAACAA CGGTGGCGTC	720

(2) INFORMATION FOR SEQ ID NO:663:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1443RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:663:

GATCTATGCG GTGCTGTGGG CGTGCATCGA CCAGCACAAG AGCTTGAAT TCGATAGGG	60
GAGCTTCTTC TTTCAGTAGG TCGAAGGCAT CTA CTGTGAC AGGACTGCGA GCCTTCTTGC	120
GGGTATCTG CGGACGCACT CCGTGGCGAC GGCCAGCCAG TACGCCAAGG TCTTCTAGA	180
CCGGCGGCCC TCGCCACGTC AGGCGGAGGT GCTGCTGCTG GGCATAGTTG CCGATGCGA	240
CGCATGCAG CGCTAGTGC AGGAGTGCAA AACGAGTGGA GCGTGACAT CTGGAGCTT	300
CTGCTTCTC ACAGAGTGCC TCGACATATA CCTGTGCTAT GTGAACGATA CCGTTTGTCT	360
GGGGCCCAAG AGCAACTTCC CGCTTGAAGA TCTGTGGTG TTTTGCAACT TGGTGGTGGA	420
CGGATATCT CAGGCTTTGC GTGCTGAGCA TGATTATGAG GTGAACAAGA TGGCGCGGC	480
GCTCTCTTA CTCAAAAGC TGTATATTAG GGATAGAAGG ACCAATTTCC TCTCCGCGGC	540
CAAGGGGAC GACTTCTGGG TCATTGCGGA TACCAGGTG AAAAAGTGG ACATTACATC	600
TCTCTTCTT TACTTTGATG AGTTCTACAG AGAACAGTTG GATTTGTTCC TGGCGCAGGG	660
CCGTGCTCGG CACGAGGTCC CAGCGGCGAT CTCGTAGCGT GGGAAAACGA TATAAA	716

(2) INFORMATION FOR SEQ ID NO:664:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 711 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1443UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:664:

5	GATCOGGCAT TTACATCTGA CATGTAACCG GGTGGTCTG TAGGTAGGT GTTCAATGTA	60
10	AACTGGTCGC AGTTCGAAGT TGGGTAGTA CTAAATTGCA ACCCOGGTGG CGTGGTGA	120
15	AGATGGCCAT CGTGAAGTGG TTCCACAAA CTATTGTTT CACCTGGGA TACTTCATCT	180
20	TCATAACTGC TTTCTAACA TACATCTGG TCATAGTCTT CGTAGGCTGG TGGAGGCAGC	240
25	TTCATGCCGT TCAGCTTTC ATATCCCAT TTCTTTACGT TTGCTTCAAT GTAGACGAAT	300
30	CGTAGGTCC CGAAATTAAC GTGTATCTTG CATGGGACAT TCGACCAAC AATCGGGTAA	360
35	AGATACTTAA TTTTCAGCC CTTTATGTTG CCACCAATGC GTTCTCATT TAACTTCTTG	420
40	CCATTCGCG TGAAGAAAAC TGTGCGCTC CGAGTTCTGT AGCCAATCCC GATGAGTGG	480
45	CCCTTTTCGC AGCGGGGAA TAGTGAAGAG AGTTCCCTGG GGAGCTTAAA CGAGTTGTTT	540
50	AACCTACGTG CTCATTAGA GTCATATGCA ACTGAGTAT GGTGTCTGCC GGAAGCCTA	600
55	AAATAGGGAT ACGGCGATGT AGCAAGACCA AAGGAACTA TTTGGTTTTC TGAGAGATGG	660
60	CTGACCGGC GGCAGGCT GTCACAGAT CGAAGATCTT GCACTCGAAG T	711

(2) INFORMATION FOR SEQ ID NO:665:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 736 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1444RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:665:

10 GATCTGGTTT TATAGGTTCA CGAAGGGACT CTGGACGGG ACCCTGCTGA AGTGTGCCAA 60
 CATGCTGTAC TTGTGGCCG TGATGCATTT CTACGACGAC TACGAGCAG CGCCGGTACT 120
 15 GAAGAACATT GGGTACTCGA TCTTTATTCT GAGCATTTGG ATGAATCAGG CACTGCATCA 180
 CGCCGGGGCG CTATTACGGG GCGACGGCG GCGCGGTCC TGGTGGTGGC GGTCGACAC 240
 20 ATTTGTGCTG CAGCCCGCAC TATATATCAG CCAGTTCTAC CTGCTGCTAC TGAATGTACA 300
 GAACCCGAGC TTTCATTGCA CGCCGAAGCT TGACATAATT AATCGCAGG TGCTGGTGGC 360
 25 CTACGTGCCC CTGGCGCTTC AGTGCTTTTC TGGCAGCTG ACGAGCTAAG TCACTCGGGC 420
 AGGAGCTGCT CCGTGAGCTC GTGTCTATG CGTGGCGGT ATTGCTCAGC GGCATGAACA 480
 30 TCTGTATCT CTAAATAGCG TTCTCTAGCT TGCTTAATCC TGGTTACCAC ACTGTGAGC 540
 GGTATATCTG CCTGCAAGGG ATCCAGCTCT GCGAAGGCTG CAGCGGTGCA CGGTGCATA 600
 35 CGCAGCATAC GCTGCTCCA GGGATGGAT ATCCAGCAGC TGGGCACAC TTCCCGCCCC 660
 TGCTGTCCC CCAGCTCGTT TGTCCCGGC TCGGCCATC TGAGAAGGC ACGTGTGCA 720
 40 CTTGAGGGC ACGCTC 736

(2) INFORMATION FOR SEQ ID NO:666:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDELNESS: single
 (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1444UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:666:

5	GATCCAAATA CATCCGGTAT ATATGCTACT TGTGCCAGAA GACATGAAAA GCAAGCATCA	60
10	AGGGAGCTAA TGAGCATTCT ACAGGAAAAG GCGGAAGAAT ACTACGTTGA TGAAGTCAAA	120
15	GCTATGCCAG AGACTGAACT CTTGAGGAC AAAGAAGATG AAGAAGAACT ATCTGTGGAA	180
20	GAGCAGGTGC AGAAAGAGCT AGAGCAATTG AAGAAAGGCA GTGGTCTCTG GGATACCAAA	240
25	AAGAAACCGG TCTTGCAAGA GATTCAAGTG GGATGTGAAT GTATGGTCTT CATCAAGACT	300
30	AGAAGACCAA TCAAGCCGGA ATGCTTTGTC AAACGGCTAG TACAGGAACT TGCATCGTCA	360
35	GAAAATACTA CCAAGGTTTC GCGTACGTC CAGAGATTGA CACCCATCAC TGATTCTCTG	420
40	AATGCTAGTC TAACAGAATT GGAAAACTC TGCAGAAGGG TGCTTGCTCC TCATTTCAT	480
45	ACTGACAAAG AGATAAAGTA CAAGTTGCGG GTCGAGGTGG TAAACGTAA CTTCACACG	540
50	ATAGACAAAA TGGATATCAT TAACTTTGTC GCGAAGGAGG TGGTAAAGAG TGGGGATTGG	600
55	GGGCACTCTG TGGACCTAAA GGACTACGAC AAGCTGGTCA TCGTCAGTG CTATAAGAAC	660
60	AATATCGGCA TGTCTGTGGT GGACAAGGAT TACTCTGTGG CTCTTAAAA	709

(2) INFORMATION FOR SEQ ID NO:667:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 717 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1445RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:667:

10 GATCATCTTC CGAACATACT CGAGGGAGTT CGCGTTCGGG AAGTTCCTGT ATCGTTGCAT 60
 GTAGTGAAT TGCTGTAAAT CGTCTGTAAA TAGAAAATTG GCGTCAATCA TGTGTGCCCC 120
 15 GTTGGACCGG CCGGAAATGA ACATGAACGG TGGCAGCCCC TAGGACACCT TCTGGCCCCG 180
 GCACGGCGGC AGAATUGCAT CGTTGGTGCG CAAAATATCG CTGTAAGCGA CCGCATCTTT 240
 20 CTCTTCTTCG ATGGGCTCCA ACACCGCCAT CTTCAACAAC TGGGCCCCAT AGCTCATCTC 300
 CATCTCCCGC GAGAGGAGAT TGTAGTCCGC CTGCGGGGGC CGACTCGTGC CCGACTGCTC 360
 25 CGAACCGAGC AACGTGAGG TGCTATTCAA GCTAGTGTTC GAAAAGTGCA CATGCTGCTC 420
 ATACGAGGAA CAGCTGAGCG CCATCTCGGT CACGCTGAGA AGGTACTGTT CTTCCCGCGT 480
 30 GTACAAAGAC CCGGCTTGT ATGTGAGCC TCTGGTGCAT TCCATTGGTG TGGCATTGC 540
 TCTGGCGCAG CCTGATACAC TGGCGTGA AATACTACCG CACCACCGCA CGAACGACCT 600
 35 TTCCGCCATT CTTTGGTTC ATAAAACCG ACTACGATA TATTTCATCC TGCTCTGCA 660
 TGTCCGATG CCGTCTCCG TTGACATAG CTGCTTATTC ATCTGGGGG TTCAATT 717

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(2) INFORMATION FOR SEQ ID NO:668:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 717 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1445UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:668:

5	GATCCTTACT GACGAGGAAG AATCGAGCAA TAAAGTTGAC GCGCTTCGA GCTCTAATAG	60
	CGGTAAGAGC ACCGCTAGTA AACGTCCAGC CAAACTAGG AAGCCTAAGG CTGACACTGC	120
10	GCTACGAAA AKCGGAACCA CCTCCGGAT GCCAAGACT GCTGCTTTGC AGGCGCTGCT	180
	GAACAAGAAA AGGGGGGCTT CGGCAGAATA GACTACTGGT AAACGTAAGT AATAGTATAA	240
15	ACTTGGTTTT TTAATCCCTG GCTATCTCAG ACTGCTAAAG CATGGCGTT TAGGTGTGGC	300
	CTCCTCGGTA GATGGTTTGC ACCAGCAAG GTGAAAAAA GATCAACAAC CCTGAAAAAC	360
20	GTTTAACT TGTCAATCTC TAAAGGCGT GCAATCAAGG CATATTACCA TTGTGGAGCC	420
	ATGAATCTTG CCAATGAAC GAAGTTCCAA ATACAAGTTG ATGAACAGA GGATACAGAG	480
25	TGGAACGATA TTTTGAGGCA GCATGGTGTG ATCCAGAAC GGCCACTTC ACGACCGCA	540
	CAGCTCGAGG AAGCGCTCGA GGAAGTGCTA CNGAGCCAC ACGAGAATAG ATTAGAGAAC	600
30	AAAGACTCTC TGAAGTGAG GACTCGAAGA TGAAGAAGAT GATGAATTTT TGGAGTTTTA	660
	CCAACGTAAG AGAATGGCAG AAATGCAGAA GCAACAAAGA AGCGCAAGTA TGGGGAC	717

(2) INFORMATION FOR SEQ ID NO:669:

(i) SEQUENCE CHARACTERISTICS:

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|----|----------------------------|
| 40 | (A) LENGTH: 775 base pairs |
| | (B) TYPE: nucleic acid |
| | (C) STRANDEDNESS: single |
| 45 | (D) TOPOLOGY: linear |

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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| 50 | (A) ORGANISM: PAG1446RP |
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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:669:

5	GATCTGCAGG CTGCTACGGA GGAAGCTGTT TCCGAGGTG CTCGCTGAG TAAAGACCA	60
	AACCTTCTTA GCATTTTCGC GCAGGAGCTA CAGAAGCTTA CTGGTGAGCC CCATATAGGC	120
10	GGCAAGGTGG ATGATATAAC GGTAGTGATG GTGAAGGTAG ACTAGTAGAT TGCACATATG	180
	TAGAATTACT AATATCATTC GAATTCTGCG CTTAAGACAA TGTCTTAAT CCGCTCTCTC	240
15	TCGCTCTTCA ATCTCTGCTC GCCTTCTAGT ACGTCATGAA CAAACTTGAC GTGGGTGGC	300
	AGGCATATCG GCGGAGTTG AGTCCGCTTT CCTGATTGCG TGAGAAAGT AAAGGGCACC	360
20	TTACCCGCTT CGACTTTTGA TGACAGATTG CTGTTGACCT GTGTGCTGGT CCAGATCCA	420
	ACGATAGGAA TGTGTGTCAT GGGGATTTTC TCATTCTGCG GGGATTCTAA AGATTGTTGC	480
25	ATCACAGCTT GGTACATCTT TTCCATTTCA TCTTCTGCTC TCGCTCTCTC CTCGACTTTT	540
	AGCTTCTTTT CGTATCTTTC GTTATCTTTT TTGGCTCTA GATCTCTGTC AATAGTAAAC	600
30	ACGTCTGTGT CGTCGTCAGT ATCTTCTTCA CTTTCACTGC TTGACGGGGA ATCACTATCG	660
	TCGTCACTCT CATCGTTATC TTCTCTGAT AAGTGCTATT AACGTCTTCT TCTTCTACCT	720
35	CGCTGGAGTC GGCAGTGTCT CCACTACTAG ACTGGTAGCC ACTATCTTCG TCCTC	775

(2) INFORMATION FOR SEQ ID NO:670:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 631 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
45	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1446UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:670:

5	GATCAATTAC ACTACTAGCA ATCTACTTTT CAACAATCTG ACTGTCCGGC AGGTTAAACT	60
	CTACCGTGAA CAGCTGATGG TACTCAAAGA GCAGAGGTTT ATAGTGGAGG GCATGCTCGA	120
10	GAACGCCAAG AACAGCGGC GTTTTGAAGA GGTTAATACG TTAAAGGAAA ATACCAAAGA	180
	GCTAGACAAT CAGATAGCCC AGCTGAAGA AACCTAGGC GACCAGGGTT TTGTTTAGTA	240
15	TCTAGCATGG AGTTTTTTGC TTAAGTATAA TTAAGTGTA GATGCCGAG ATAGCATGTC	300
	GTAGCATAAT TCGAATTTT CACCAACATG AAAAAGTGTG TGTGTATAAG GCATCCAGTG	360
20	AACTCCTAAC ATGCTGATGA GGTTTTAAGT AAAGATATCA CTAGCAATGA ACGTAAGTGC	420
	AGTTTTTGAG CTATTATGCC TCTGTAGAAC ATAATATTAA CGACAGGGGG ATAGGATGAA	480
25	AGAAGACAGC AGTTATTTGA GCTGAACAGT GAAGCCTGGT CTGGAATTGA TCGTTCCCG	540
	AATAAAACCA GCAAGCTTGA CTCAAGCATC AAGAGAAACA CAGGGTTTAT CAAAAAGCTG	600
30	AAACAGGGTA TCACGAAAGA CTCGAAAGAT C	631

(2) INFORMATION FOR SEQ ID NO:671:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 703 base pairs

(B) TYPE: nucleic acid

40 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1447RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:671:

55 GATCCAGGAT GATGAATTTG ACGAGGAGGG GGGTCAGAA GAGAATGACG ACTACTCAGG 60

GTTTAAAAGA TCCTGCATGT CCTCCACGT CCCCCTGTG TAGTAGGCAT AGCGCTCGTG 120
 5 GTACGGGCGG TGCGCCATGG CCGGCGCCAT GGGCGGGGC CCATCGGCC ACCCGGTGGC 180
 GTACATGTGG TACATCCGGC GCGCGACGC GTCCGAAAGC AGCGGTAGG CCTCGTTAAC 240
 10 CAGCTGAAG CGCGCAGGC GTTGTGCTC ACCAGCCCC TGTTGGGAG CCCCCTCGT 300
 GTCCGGTGG TACAGCTTG CGAGCTGTG GTACCGCTT TTAGCTGCC GTGCATCGAC 360
 15 GCCGTCTTC ACCAGTCCA GTACCTGTA GGGGTGGC TGCTTGCCCT GGGGCCAGA 420
 TAGCCCCC TGCCACCGG CGACGTGCT AGCGACCGC ACCGTACTC GACCTGACG 480
 20 TGTAAGCAG ACCGCCAAG TGCGCCAGT CTGAGCAGT CAGTCGAGC CGACAACATA 540
 AACTTAAG TCCTAGTTAA CGCTTGGG ATGAGATCT TGTCGGTGA TGACATATC 600
 25 CAGGACGGC CTCGCTCC GCTGACTG TGCCGTCCA GCTCCAGT GCGCGCTTA 660
 GCCATATCG CGAAAAATA AAGTCTGCT CGAGCGCGA TGA 703

(2) INFORMATION FOR SEQ ID NO:672:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 684 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1447UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:672:

GATCAGCAG ACCCTCGGC TGCTGTTGG AGATGACTG GCTCTGGG GCGAGTGGC 60
 55 GGCAACGGC CCGCCGGC AGACGGGCC GCGCCGGC CGTGGGGTA CATCCGACC 120

AGGTTCTGCA GCTCAAACCTC CAAGGCCAGC TTGTTCTGT TCTTCTTCCG CTTCCGCTTG 180
 5 TACTTGTAGC CCGGCTACTT CTTCCGCTGC TCTGCTKCT CCAGTCCGC CTTGCTGTC 240
 CACTCCTTCT TCTCCTCCG CGTCACTTTT TTCACTGGT AGCTGATGAT CTTGCTCACC 300
 10 TCGCAGTTGT GCGGATGTC CTGGCCGAC TGCTTCCAGT AGTCTGTCAG CAGCTTCTGC 360
 TGGTCCGACC GGAACAGGAT GAACGGTTG CCGGCCCGG GGATGTGCTG CTCTGCTTG 420
 15 TAACCAGGC GCGCGCGCG GCTCGCCGG CCTCGCGTC CTGTCGCGC ATCTGGTGC 480
 GCTGCCACTC CTCGCGCGG GCGGCTGGT GCGAGAAAA CTCTGTGTC AGAGGCGCTG 540
 20 CCGCGCTGCC GCTGGCTGC CCGCTGCTC GCGCGGCTG CCGTTGCTT GCGTTGGTCA 600
 AAGGCAACAA TTGCCCCGAT CTCGCGCGC TGCTGCGCT GGTGTACGAT CCGTGTGATG 660
 25 GTCAGCTTCT GCTCAATCA CAGA 684

(2) INFORMATION FOR SEQ ID NO:673:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1448RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:673:

50 GATCCGCTAC GTATACAACG ACATATTGCT ACGTATCGAA TGTGATGTGA CAACATGCAA 60
 GATTCTCAAC AACAAGCGCA AGTGGTTTAG TGGTAAATC CATCGTTGCC ATCGATGGGC 120
 55 CCGCGTTTG ATTCCGGGCT TGCGCATATT TTTCACAACA TGCACACACT GTGTGGCTAT 180

EP 0 866 129 A2

CGAGACGGAG TCCACTACGA GCATCGTCAT TTTTGTCAT AATTTACAAG CATATGTAA 240
 5 CTATTGTGTC ATGATCTAA ATGTCGAGTC GATAGAATCC TTCAGCTCCT TGTAGCTAAT 300
 GATAATGCAG TTCATCTCGT CCGGTGTCAC CAAGATTATC TTTTCAGATA CCGCGGTGTC 360
 10 GAGTTTGTC AGGCACCGGA GTACGTGGGT GAGGTCCATC ACGGATTGTC CGTTCTGTC 420
 CACCTGGTGG AACACGTAAT CGTAGAACAG AATGATGGGG AACTTGTCCT CCGCTCAGA 480
 15 CCAGTGGATG TCCATGCTGG ATTCCATCCT ACCAAAGATG AAATTTAGCT TGCACATGAG 540
 CCTGAAGAGC CTGCCATTCT CTAACCTCCG CGACAAGTGC TGCTCGATGT TCTCCAGTA 600
 20 GGTCTCCGAC GAACTGATTA TGCTAACAT CTTGTGGCTG AACAGGGCGG TGAATCCGC 660
 AATGCTCTTC TTCTCGTCCG ACAAAGGTA CGCCAGCACC CGCTTGAACA GCGGTG 718

(2) INFORMATION FOR SEQ ID NO:674:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1448UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:674:

GATCTGCCA GCGTGGCAT CCGCAGGCC GCAGGCGCC CGCGCGCG CGCGCGCG 60
 50 GCGACTGCGC CACAATGCTG TCCCATAGCC CTCAACATCC CAACTAGCTA GTCACCTTGT 120
 GCAATCGGTC TACCGATGGT GTGTGCGCG GGGACAAAGC CGTGGTGAAA CGGACACTTT 180
 55 TCAAAATGGG CTGATCTGCA GCAGTACAG ACGATGAGC TGCGCGACG GCGACAGCAG 240

TCGCGGTTCG GCGCGTGGCT GCGCATAGGG AACTTAGGTA TAGTATAGAA GCGCGGTCTA 300
 5 CTTGGCGTAG GCAGCGAGGA TGTGCTGTT GTAGCGGAGG TATTGCGGT TCGCGCAGTC 360
 CCGGATGGCT CTCAGCGCCA GGTGCGGAA GATGGTGGC GGGATCTGG GGTCCAGCAG 420
 10 CTGCTGTTC TTCTTAGCT CCGTGAAGCG GCGCAGTGC TCGCGGCGA TCGATGGCC 480
 GAACTTGTG CCGATGTGT TGTGCATCTG CGTGTGACC ACGCGCGCG CCACGGCGAC 540
 15 CCGCGCACG GCAGGCTCTT CCGCGGCGAG CGTCATGCA AAGTGGTTCA GCGCGGCTT 600
 CGACGAGCG TACGCGGCGG ACGCGACTG TCTCGAGTT AGTAGCTGC CTGCGCTGC 660
 20 TCTGCTGT ACATACATAT GCTTCGTGC TCGCGGCGA GTCACGAAC ACCACACTGC 720
 CGCC 724

25 (2) INFORMATION FOR SEQ ID NO:675:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 697 base pairs
 30 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1449RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:675:

45 GATCAAAGA CCGGTGCTC GCACTCCAC ATGTCTCAA GCTGACGG AACAACGATA 60
 TCTTACTGC GGTGAAGAA AGCCGAATC ACAAATGCC ACGATGCTG AAGCAGCAT 120
 50 CTCCGAGGC CGAGCTCTA TGTAATGCT GCGCAGAGT CCTCAGTAA GCCAACTG 180
 AATTTTCAA AAATTGAAA CTTCACCATG GTCACATGC TGACTGCTTT AATATCCTGT 240
 55

AAATACAACC GGACTCTGCA GGTCGATGCT CCCTCACCTG GGCCCCAAC TCTCCCTTGT 300

5 ACCGGGTGCG GCGGTGGCTG CCTCATTCOG CCTGCATCTC GCTTCCAGAG GCGGCGCTTC 360

TGGGGTGGCG GCGGCGCTGC CGGCATTTCAT CGCGCGCGCC TACGGCAGCC CACCGGGCGA 420

10 CGCGAGGCAG ACCCGCGCGT GGACGTACCT CGCGCGCTCG CGGCTCTTCC AGCGCCTTTA 480

CGCGCGCCTT TCGTTGCGCG CGTACATCGA CCGTCTGCTG GCCAACGGGC CGGTGCCAAC 540

15 ACTGCGCGCC TTCTGCTGC TCCATGAGGC CACCGCCATC GCTCCTCTGG CGTGTCTGTG 600

GTGGGGGGTC TACAGCTGGG ACGTGGTGGC GCTGTTGCGG CAGGGCCTGC TTGACTACCT 660

20 GGCCGAAGCA CGCATCCTGC CGTCRAGAGG TTGTGG 697

(2) INFORMATION FOR SEQ ID NO:676:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1449UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:676:

45 GATGGCTCA ATGGGTGCT GAAGCGTGT CTTTGTAG ATGACCTCAA CTTAAAGGCA 60

GGCTCTGAT ATCTGTTTC TTTTTTTAA AGTGAGCTT TGAAAATTT TTGGTTCTCA 120

50 GCTCATCTCA TCTACAATAG TATGTCTAGC ACGCCAGCAA AGCTTCCGTA ACCGCTCTAT 180

TCAATATGAG TAAGCAGGTA AATGATACTA GCAAGAATGG TCTTGACCTA AAGACGCTGT 240

55 TTGTCCGAA TATTCGTTT GATGCTACCG ATGCAGAGCT GACAGACTTC TTCTGCAGT 300

TTGCACCTAT TAAGCATGCT GTGATCGTAA AAGATAATGC GGGCTCGAGC AGAGGGTTTG 360
 5 GGTTTGTGTC GTTTGCTGTG GAAAGTGATA CACAGGCTGC ATTGGACAAG GGACGGAAAA 420
 CACAGTTCAA GGGCGTCTTT CTGAGGGTGG ATGTTGCCAA AAGAAGAGAA CGTTCCGAAAA 480
 10 AAGGCGATGA GGGCGAGGCA CAGACCTCCG CGGAGGACGC GGACAAGCCG ACTACTGCTC 540
 CCGAGGGTGA CGAGGCGCTC ATGCGGGGCA AGCCCAAGCT GATCATTAGG AACATGCCGT 600
 15 GGTCCTGCCG CGACCCGACC AAGCTGAAAA AGATCTTCGG TAAGTTCCGA GTGGTTGCCG 660
 AAGCTCCATC CCGCGCAAAG CGGATGGAAA GCTGTGTGGG TTGCATTGTG CACGA 715

(2) INFORMATION FOR SEQ ID NO:677:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1450RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:677:

GATCAATTCT GTCTGAAGT AGGTATTAAT CAATGGGTCA GGCTGGGTGG AATTGCTTAC 60
 45 AAAAATACCA ACCCAATCAT CTTGTAGTT GGTGAGCGAT ACGTAGACAA TTTGCTCAC 120
 ATCAATCTTA TAATGACAG CATAGGTGAG TTGATTATTA ACCAGTGTCT TTCCGATAAT 180
 50 GTAGAAATGG GATGCGTAA GTATAAAGGT TTTGGGTAGC CTTTGGGCGG ACCTACCAAA 240
 TTTTGAATGT AGCGCTTGCC CATTGATAGA GAATACGACA TGATCATTAA TTCCAGCTTT 300
 55 CTTTTTGACA AACGCACCT TCGATTTCAG CTCATTACAA GAAAGGTAGT CTCCAGGAA 360

TGGCCCTGTAA CCTAACAAAG ACATTGCACG CCTCTCCTTT CTGCCACCCA ACAACTTGTT 420
 5 ACGTAATCC CGGAGTTGTT CGAATTGGTT CCCATGTTTC ATCTACGGA TAGCAGCTG 480
 GATACGAATC GCAGAATCGA TACGCCGTTG TAAAAACCGC CGCCAGGCTC TCTGAATGCG 540
 10 AGATGCCATA TTATGCCAAT ACTTATCCCT CATGTTTTCC AAAGCAAACA AGGTCTCAGG 600
 TGTTTTAATA AATACCTTCG TTACACCCAA CTGATATTCA GTCACAGGAA TTGAAGTATC 660
 15 TCTCAAATT AAATTGACAG CATCTAAGGT ATTACCTTGC CATGT 705

(2) INFORMATION FOR SEQ ID NO:678:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1450UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:678:

GATCGCAAGT TGAAGAGCG AGTATCCATA TGATTACTCG CGCAGAGCG CCGGCTCGCG 60
 40 CATCAAGCCT CAGACAGTTA TCACTCGGCT CTCGAAATC GCAAACGCCA CCGGAAAGGA 120
 GGTGATCGTG ACGACCGGTG TAGGTCAGCA CCAAATGTGG GCGGCCAGC ATTGGAAGTG 180
 45 GAAGAAACCA CGCACATTTA TCACATCAGG CGGCTCGGT ACCATGGGCT TTGGTCTACC 240
 GCGGGCATT GGTGCCAGG TAGCCAAACC CGATGCGATT GTCATGACA TCGATGGCGA 300
 50 CGGCTGCTC AACATGACCT TGATGGAGAT GTCCAGCGCG GTGCAGGCG GCGGCCAGT 360
 AAAGATATTG TTGTTGAACA ACGAAGAGCA GGAATGTG ACTCAATGGC AGTCTCTATT 420
 55

CTACGAGCAT CGTTATTCTC ACACCCATCA GCTAAATCCG GACTTCGTCA AGTTGGCTGA 480
 5 TGCAATGGGG TTCAAAGCAA TGGGCTAGA GGGCAGTGG GACATGGAGC CCATGCTGCA 540
 GGAGTTTATT AATTGCAAGG AGCCCGTGTT ACTCGAAGTG GCGTCGAGA AGAAGGTTCC 600
 10 CGTCTCCCG ATGGTCCCTG CCGGTAAGGC CTGCATGAGT TTATCTACTT CGACCCAGAG 660
 GTCAGCGACA GCAAGCGAG CTTCCGAGCA GCGTAAGG 699

(2) INFORMATION FOR SEQ ID NO:679:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 708 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1451RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:679:

GATCTTGGTG GTAGTAGCAA ATATTCAAAT GAGAACTTTG AAGACTGAAG TGGGGAAAGG 60
 40 TTCCAGGTCA ACAGCAGTTG GACGTGGGTT AGTGGATCCT AAGAGATGGG GAAGCTCCGT 120
 TTCAAAGGCC TGATTTTCCA GCCCACCATC GAAAGGGAAT CCGGTTAATA TTCCGGAACC 180
 45 TGGATATGGA TTCTTCACGG CAACGTAAC TGTGTGGAG ACGTCGGCGT GAGCCCTGGG 240
 AGGAGTTATC TTTTCTTCTT AACAGCTTAT CACCCCGGAA TTGGTTTATC CGGAGATGGG 300
 50 GTCTTATGGC TGGAAGAGCC CAGCATCTAT GCTGGGTCCG GTGGCTTAC GACGGCCCTT 360
 GAAAATCCAC AGGAAGGAAT AGTTTTCATG CCAGGTGTA CTGATAACG CAGCAGGTCT 420
 55 CCAAGGTGAA CAGCCTCTAG TTGATAGAAT AATGTAGATA AGGGAAGTCG GCAAAATAGA 480

TCGTAACIT CCGGATAAGG ATTGGCTCTA AGGATGGGT AGTGAGGGCC TTGCTCAGAC 540
 5 GCGGCAAGTG TGCTTGTTGT CTGTCTCTGG GGGCTTGCTC CTGGGGAAGG ACTGCTTGCG 600
 TGCTCTGTGG TAGACGGGCT TGSTAGACCA TCTCTGGTGG TGCTTGCTA CAATTACGA 660
 10 TCAACTTAGA ACTGGTACGG ACAAGGGGAA TCTGACTGTC TAATTAAA 708

(2) INFORMATION FOR SEQ ID NO:680:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1451UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:680:

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCAAT GAGCTCTTAC GAACTGCACA 60
 35 AACCTACTCG AACTCTGTTT CCAGACTTCT TTCTGTTTGT CTTCAACTGC TTTCGCATGA 120
 AGTACCCCCC AGGCTATTTT TCTTACCCGC CTGGTGTGTTG TCTATATACC CGGTGTATT 180
 40 TTTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATCCAGTC CTTAGCGCCA 240
 TCGGAAAATC TGCCTTTTTA CGCTGTTTC TCCAGTCTT AGCACTGGCA GAAAAAGAT 300
 45 GTATGGCGTA TAGGCGCTGG CCCCCTGGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA 360
 AAAAGAGGTG GGCCGCCCCG CGGGCAGACG AAGAAAAAAT AGGCGCCAC CCTCCAAGC 420
 50 AGAGACAGG CGAGACATAA TAAAATCCCA CACCAAGGA AGAAAGTCTT GTGCAGCTC 480
 CCGGCTCAT AGCTGCCAT TCTGTTCAT CCGCTTCCA AACCAGTAG TGGCATGTCA 540
 55

AAGCATTGCT CCGACGCTCC GCTGCTTGC AGTCGACATC CTCTTCTAA CCCCAGCCAG 600
 5 ACTTCCATA CTTTGCCTT CACATAGCAT ATCACTTTTC AGATCACTAC GTGACATTGG 660
 GTACCGAATG GCACTCCAAT GCGACAAAC CTCTTCTAC CCGTGACTT ACCCCGATGT 720
 10 GC 722

(2) INFORMATION FOR SEQ ID NO:681:

15 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 20 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

25 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1452RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:681:

35 GATCAAATGT GGCTCTACAA GGGCGAAGT GCGAGAGAAT ATTAATGAAT CAGTTCCGCT 60
 GACATATTTG TATTGTCAAG GTATTCCACA TTCTTTGAG TAGGTATGTC CGTCTAGGAA 120
 40 TGGCTGGCTT AGTAAGGCTT AATATTAAC TAAAAGGCA GCAGTGAAT CCATCTAGTA 180
 ACTAACACAT ATCCATTAGC ACATGTTTCG TTCAGTACTA CGTCATTCTT ACCCGTCCC 240
 45 TACTGTGAAT TACACATGGT CCTCGAGAAG CCTCATAAGA TTCTTCACTA GCGATGAGAA 300
 GGCAGCTCCT CCATCGCTTC CGAGAGAAGA GCAGAAAGAG TTGAAAGGC TTCAGAAGAT 360
 50 TGCACAGTCA CAAGCTGCCA TCGACGAGTA CAACAGACAG TTGAGAAATG ACCATAAGAA 420
 GGAGTCAGCG AACTCTCCA TTCTCAAGAC AGAAATAGGC TCGTTCTCAC CGGAATTCAG 480
 55 CAAGACGTTG CCAGAGTTGG AGGGCGACAA GAATCCCGAG ACAGGGGAGA TTGGGGGGCC 540

GCGCCAAGAC CCACTGCGGT ACGGGGACTA CTCATACAAC GCGCGGTGA CGGACTTCTG 600
 AGGTATAACT TGTGTTTATA TGTTCGAGG TTGGTTAAAT ACATAGCTTG CGCTCCAAC 660
 CTCTCGCAGC TCGAGACAGG TTGTGGTGC ACTCGTGAT GAATTTCGAG TCCAGCTTT 719

(2) INFORMATION FOR SEQ ID NO:682:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1452UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:682:

GATCACCAAC TCTACAGCAA GAAATCTTAC GCGCAGCAA AGCTGTCTC GATGTTCTTC 60
 TATTCTGTAA ACAGTTTGTT ACTTCGGTC GCTTGATCT GCATGCGCTA TCATCTTTTC 120
 ATCTGGAGCG TTTCAGCCC GAAGTGTGC TACCTTCGG GCTGGAACAT CCTCATCCAC 180
 TTTCTCACTG AGACGGTGCT TGAACCTTTC TTGCTCATGG TGGGGGGCTG ACTGTCTCTA 240
 GTTCCACTTG TATAATATTC CTTCACTAGT GAGAATCTCA TAGTATTGTC ATATATTAGA 300
 TATTATCTAG GTCATGTTTT AGAGAATAGG TCTCTTCGA AAAAATTGGC TACCACTGCC 360
 AATCATTACA TGTCAGAACC GACCATCTCC AAGTGTGAA CGTCCCCAC TGCAAATGCT 420
 CTCACCTAGA TCCAGCTTCA GAGCCTTATT TTCTGTTTCC TGCAGGGTTT ATGACCAGCA 480
 GCGCAGAAG GCGGTGCTT CCGCCCCGC TGGCACACG CTGAATCTGC TTATAAAGAA 540
 GGGCGGAAG GAGCGTTGG CTCTGAAGA TCGACTACC CGAGTGGTTA TGGAAGGTGC 600

TTGACCTGAG GCGCAAGCOG CAAAGCTGGC AGAGGACCCA TTAAAGGCGG GAAGAAGGCT 660

5 CTGCGGCOGA TGAACAGAGA ACACATCCAG CAGCAGAACT TCCTGGCGAA GATGTGAA 718

(2) INFORMATION FOR SEQ ID NO:683:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1453RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:683:

30 GATCTTAATT TAAATTTTAA ATTAAGTATT TATAATTTAG AAATATATAA TCTAGAGATA 60

TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120

35 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180

ATTTTATTAA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240

40 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300

AAATATACCA TTTTATTTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360

45 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420

TTTCATAATA TTTATTTTAA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCTTTAA 480

50 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540

TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCT TTTTATTAT TATTTAAATT 600

55 ATTATTAAIT AGTAAATTAT ATTTATTTAT TTTATTAACA TAATTTTTTG ATAATAATAT 660

ATCATAATTA AATGGTAATT TATTAATAAT TATCTTAAAT GAATTTAATG ATAAACCATT 720

5 ATTA 724

(2) INFORMATION FOR SEQ ID NO:684:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1453UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:684:

30 GATCAAAATT TCAACAATTT CCATTTCATT TAGTACTACC ATCACCATGG ACCAATGTGT 60
 ACATCATTTA GTTTATTAGG TTTACTATTA ACTTTAGCTT TTACTATACA TGGTATTATT 120
 35 GGTAATATTT ATCCTTTATT ATTATCTTTA TTAGTAGTTT TATTACTAAT AACTTTATGA 180
 TTTAGAGATA TTGTAGCTGA ACTTACTTAT TTAGGIGATC ATACTTTAGC TGTAGAAAA 240
 40 GGTATTAACT TAGGTTTCCT ATTATTTGTT GTATCTGAAG TATTAATTTT TGCTTCTTTA 300
 TTTTGAGCTT ACTTCCATTC AGCTATAAGT CCTGATATTC TATTAGGTAA TGTITGACCA 360
 45 CCAGTAGGTA TTGAAGCAGT TCAACCAACA GAATTACCAT TATTAAATAC TATTATTTTA 420
 TTAGCATCAG GTCTAACTAT TACATATAGT CATCATGGTT TAATTGAAGG TAATAGAAAA 480
 50 CATGCTTTAT CAGGTTTACT TATTACTTTC TGATTAATTG TTACATTTGT ATTATGTCAA 540
 TATATTGAAT ATAGTAATAC ATCATTTACA ATTACAGATG GTATTTATGG TTCAGTATTT 600
 55 TTTGCTGGTA CTGGTTTACA TTTCTTACAT ATGGTATATG TACTAATTAT GTTAGGTATT 660

AATTATTGAA GAATAAGAAA TTATCATTTA ACATCAACAC TCATGTAGGA TATGAGACTA 720

5 CTACTATTTA TT 732

(2) INFORMATION FOR SEQ ID NO:685:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 714 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1454RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:685:

30 GATCATGCCT CACCGCGTG GAACATGCAG GTGAGGGGTA TGTACCCCAT GTTGCCTTAT 60
 TTTTTCACCT GAAGCGGATT GGCTCTTGTT TATACAGACT TTCTGCATC CCTTGGGGGC 120
 35 CAGAGCTAGG GCTAGAATC CGTGTGTAAC GCGTTGGGCA CTGATTCAAC ACGAGCACAA 180
 TTCCAGTGCT GCTGTAGAA ACGAGGCCCC TGAAGTATAT GGTGATATCC ACATTGCGGG 240
 40 AGTATAGTTC TCTGTGGGGG CGACTTCATG CCATGTGCAT CTCGGGCTTA CTCCACAGCC 300
 GCACACGCTG CATTGTTTTG GGAACATCAT GTGAAATACT GGTATAGAGC GCATTTCAATA 360
 45 GGGGTGCCAG CAGCTGTAAT AGGGGGGCAT ACCCGGCTCT ATTTTCATGTG TTCATGTGCT 420
 AGTTTAGAGG TATTTTGTAG GTGCATGGGT TATGGCTTAC TTTCATATG GAGATCTCAT 480
 50 TCGCTCGTAA CGTATATAAC TGAGGTAGCC GTAAACTTGC ACTGGTTCCC ATTGCCAGAG 540
 CGAAGCTACA ATAGCACCAT CTGGCTGCAA GTTGTGAACA ATGCATTGGA ATGCATACT 600
 55 CTTTGGGGC TGTGGGCTTT TGCTGCAACA ATTAACAAAT GCCTTTGATG AAGGAGTGCT 660

AAGGAAATGT TATGAATCTG GTGTATGCCA CCGAACAGG CATTACGGAG AGAA

714

(2) INFORMATION FOR SEQ ID NO:686:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1454UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:686:

GATCAAGGCG	TGTATGGTTC	CCGAGGCGCC	AGTAACAGCG	GTCTGTACG	ATTCAACGA	60
TTCCAACATG	GACGATGATG	GCTCCAAAGT	TATGTTCCCG	ACCACGCTTG	AACTCAAAAA	120
GGTTTTTCAG	GCTATTGTTT	TTGAGGCCAT	CAAACGGGGG	CTGCAAGTGT	TTCCATTAG	180
GAATATTGCT	CCTATCTTCC	GACAGGTGGG	ATTCAAGAAC	GTAAATATA	CCGTCTGAC	240
ATTCAAGCGC	GGGATTTTG	TGAATGAAAT	GGGTTGGTG	AACGAGCTAC	TTGCAACGTT	300
TCACTACGAT	TTTCTAGTGC	GAACCTTTTT	AACGTATCGT	AGTAAGTATC	CAGTTGGAAC	360
TGACCCACAG	AACTGCCGA	GGAGTACAT	TGATGAGCAC	ATGGGCCAAA	TAGATGACAA	420
TGCAGGATGC	TTGGTCTTA	TTGCAATCAC	GGCGAAAAAA	CCAGAGTAGG	TTTCCACCGT	480
TGCTATTGCT	ACCGGGGCA	ATTCTCCCGG	TCATTATATA	TGTTAGCAGG	TGTCAATACC	540
TCCTTACAAC	CTAATATTTC	AAAACCTAAT	ATCTTCTGCT	CCTTAGAAAG	AGCCACTTCC	600
TTATAIGTTA	ATATCTACCG	CTAGTTCTAT	CTAATAATTT	TATAATTTTG	ATAAATCTTG	660
ACGTACATCT	TATCACTAAG	GAAGATCTCA	TCACAACTC	CGCAAAGTGT	TTCATATATA	720

(2) INFORMATION FOR SEQ ID NO:687:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1455RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:687:

GATCTCTTCG ACATAGTGTC TTAATAGGCC TGCTGAGGAC TTCACTGAGA AAGCTTCAAT	60
AGCGGGCAAT GGGCCATCTC ATCAACACTT AAAATTTTTC GTGGCAAAG AAACAACACT	120
GGATCACGT GACCACACAA AACTCAGGAT TTACTGTTGA AGGGGAGCAG GCTACGACGA	180
CTCTTCTTCG CATGGTAACT CGCTGCTGTC CACTTGCCGC TTGGGAGCCT TCTTTGCTGA	240
CGCTGGCTCT TTCTCTCTTT CTAACAGCCT CTCCCGGTTA GCTGTGATGT AGTGGATGAA	300
GAAGTCGCCA TCCTTGCTGC GTTTGCGATC AGCAGGAGC GTCTGACAT CGTCGTATAT	360
ATCAATGGGT CGCTTTGCGA GTTGGTTTAG CAGCTTGTTA TCAGGCCCTG CACATTGCAA	420
CTTGGCGATG GCTTTGGTCG ACTTGAACGA CACCTGGCCC GGTTTCATAT ATCCAGATTT	480
GCGCAGGTTG TGCCAGGGCG TGCTCACAAT GCTACATTGT GCTGCTTGT TCCCTTGTC	540
AGACTCTGAC TTGCACAAC TGCAGCAGGC ATGCAGCACA TCCCGCGCA CGTCGCTGGA	600
GCTCTGCTGC TTTCATGTA ACTTGAGATA GACATGTGCG CTGGCATACT TGTCTACGTT	660
GGAACCAGAA GTAGTTTAAT CCCGGTACCC GTGCTTGAAC AAAAGGTGCT TC	712

(2) INFORMATION FOR SEQ ID NO:688:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1455UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:688:

GATCCCATCA CATGAAATGT CTAGAACTCC CTGCATGACG CGAATGAGGC CAAGAATGTC	60
TGGTGGGCTT GGCTAACCGA TGTTCGCAAC TGCAACAAGG GGTACCTGGT GTTTATAGCC	120
GTATGTGCTC ATCCGGGATT CGTCAACAG GAGAGAAGAA CCGGACCACA AGGAAACGGC	180
GTAAAGCATC TAGAATCAGC AACCTTAGAG AACGTTTGTT CGTCGTTGGC GCAAGAGCAC	240
CGAGCGTAGG GGCTGGGAGT TGGGTGGCT ATTTCATCGT GGGCAGCGCG GGTATATAAG	300
TAGGGTATGC GTCCGTTGAA CAGAATGGAT CCGTCTCAGA ACAATACCAA AATCGCATTT	360
CGAAAAACAA CCACTAATAT GAAGTACACC TCCGCTATTC TACTCGCTCA AGTCGCTTTT	420
GTTCAGCAC AGTCATCTC GGGTCTGTT ACCGCGAGCG CTGCCCCCGC TCCGGGTGGC	480
GGTCGGGCG CAAGCATTTT TAGCACCAGC ACAGTCACCG CCTCAGGTTC TGGACCAGGC	540
GCGACGTCG GTGCTAGCTC CCGTCAGCA GCGGGGCGC CTGGGGGGC CGCAGGTGGC	600
GCCGCATGTG GCGCGCAGG TGGCGCGCC GGTTCCTAACT CCGGCAACTC TGGCTCCAAT	660
GGATCTGGCT CCGGCCAGA ACACTCTGGA ACAGAACTT CCGGCCAGA ACACTCTGGA	720

(2) INFORMATION FOR SEQ ID NO:689:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 696 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1456RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:689:

20 GATCCACGCC GGGCTGCTGA CCAAGTGGT CATCATGGC GGGACCTCC TGCTCCAGG 60
 CCTGGAGCAG CCGCTGCTCA ACGACCTCAG CCTGCAGTTC CCGCAGTACA AGCTCTCTAC 120
 25 CTACGCCACG CCGGCCACG TCGACCGCCA GCTGCAGAC TGGCAGGGG GGTCAACAT 180
 GTGCCACCTC CCGGACTGGA AGCTGGGCTC CTGGGTCAAC AAGCAGGAGT ACCTGGAGTC 240
 30 CCTCGACAAG TAGCTGTGTA GTATGTAACC GTATGCGCG ACCCTGGGGT TTCTTTCCCG 300
 CTCCCCCACC CCATGAGGC CCCCCGCGG CTTGCGCGC TCCCAAGGC TGGGCGCCCG 360
 35 CGGCGCCCGC CCGACACCG TCGAGCTCTA CCTGGACTAC TGCTGCCCCT TCTCGGCGCG 420
 CCTCTTCTCT GCGTGGCAG ACGCCCTTTT CCCCCGCGG CGCGCGACT CGCGCTTCCA 480
 40 GATGCTCTTC AACCACGTCA TCCAGCCCTG GCACCCCGC TCCAGTACA TGCACGAGGC 540
 CGCCCTGGCC GTGCGCGCC TCGACCCGC CGCCTTCTCT CCTTCTCGC GCGAGCTCTT 600
 45 CCTCCACCAG GACCGCTGGT TCGACACCG CACCGCGAC AAGTGGCGC ACGCGTGTA 660
 CCGCAAGCTC CGGACTTGGC GCGGACGCC GCGCGC 696

(2) INFORMATION FOR SEQ ID NO:690:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 739 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1456UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:690:

GATCTGGAAT ATTACGGCA CAAACTTGGC GCTGTGCTTC CACACCAGCC TCCGGTACCG	60
CTTCACGGCC ACCAGCTCCT GCAGCAAGCG AATGCACACG TATGCCAGCT CCATGCGCTC	120
CAGATTAGTC AGAACCOCGA GGTAGTGGG GTTCGACACC AGCGCCTCCA CCAGCTCCTC	180
GCTCTGCAGC CCGTCTTGA TCAGCAGCGA GACAAAGTTG AAGCAAGACA GCAGCAOGAA	240
CTGGTGTCC GCGCGCTGT CGTCAGTGT CGACTCGTAC AGCTTGCGCA CAAGCTCCGG	300
GCGCTTCTTG AAGTACCGCA GCACCTCGTG CAGTACTTG TCGCTGTGA ACAGCTCOGA	360
CAGCAGGTTT AGCACCGCC GCTTCGCATC CAGGTTGTTT GAGTGGCCA GCAGGTGCAC	420
CAGCGCTGC AGCGCTGTT CCAGCGGCAG ATCCAGCGCG CCGCGCGCG CGTGTTCCTAA	480
CAACGTGCAC TCGAGCTTCT TGGCAATCC CGCGTCAAC TCGCTCAGCT CCGGCGAAGC	540
CACCAGCGCG TCCACGCCA CATGCTCGA GCTGATGTA TTGGGATAT CGTTGAAGTG	600
CGTCTATCA AGCAGAATCT TTTGAACCC CTGAGCCAAG GGCATGTCA CAGCTAAGAT	660
CTACGCTTCC AGCCACCGT ACTGCCACT TTGAAACCC TGGGACTAGT CAATATCTGG	720
CGTGGTCTGG CGGACTCC	739

(2) INFORMATION FOR SEQ ID NO:691:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1457RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:691:

GATCAATATC GGGACGAAAT CTGTTGTATC TACTACGGC ACGGCGACTG CGCCGAGCGC	60
ACCAGGATCT CAGGCTTGST CAGCGAGTCC GGATTGTCA GCTAAACAAA AGAAGATTTC	120
ATCTCCACTA CCTCTTGACT TACCTCCACC GAAGGATTTT AGCAAAGAAA TCGAGGAGAT	180
TATAGAACAC GATTTGACTA AATTGGCCTT TCAGAATCCT CTTTTTAAAG ATGAACCTCC	240
ATATTGGTTA CAGGCCAAGA GGCCATTGAT CCAACCGTAC AGCACTATGT CTGAAAGAAT	300
GTGGAACAG CTGGAATCCT CATTACTTAA CTGCCAGAT TGGCTTGACG CTGACACACC	360
ACAATCTCTAT CAACACCGGC TCTCTTTACC GCATCCACC TCCATTTTCT TCCTAGTGA	420
ACCGATCAGG TTGCTGGCTG CTGGCTGGAA TAACGATAAT ACGTCCACTA AAGATATCTA	480
TGGAAAACT TCTATGGTTC AGATAATGAC CAAGTTGAT TTGGATACCC TGTTTTTAT	540
CTTTTATCAT TATCAGGGAA CGTACGACCA ATTCTAGCT GCCAGGGGAA CTAATCATCC	600
GTGGGTGGAT ATTTAATAGA GTCAATCGGT GCTGGTTTTA CAAAGAAGTT GAAAAGCTGC	660
CCCTTGAAT GGATCAAAAA GAAGAGGT	688

(2) INFORMATION FOR SEQ ID NO:692:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 711 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1457UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:692:

GATCGAGGAC TTGAAGCAGT TCCGGCAGGT CCGGTCCAAG ACCCCTGGGC ACCCTGAGTA	60
CGAGCTTCCC GCGGTGGAGG TGACCACCGG CCCTCTAGGC CAGGGTATCT CCAACGCCGT	120
TGGCTTGGCG ATCGCGCAGG CGAACTTGGC TGCCACTTAC AACAAAGCCG GTTAOGAGTT	180
GTCGGACAAC TATACGTACG TGTCTTTGGG CGAOGGCTGT TTACAGGAGG GTGTGTCTC	240
CGAGGCTTCC TCGCTTGCAG GCCATCTAAA GTTGGGCAAT TTGATTGCGT TCTATGACGA	300
CAACAAGATC ACCATCGATG GCCACACTGA GGTGTCTTTC GAOGAGGATG TCTTGAAGAG	360
ATACGAAGCA TACGGGTGGG AGGTGTGTAA CGTTGCCAAC GGTGACGAGA ACTAGAAGAC	420
AATGCCAGTG CCTTGGAGCA GGCCAAGAAG AACAAAGACA AGCCAACCTT GATCAAGTTG	480
ACGACCACTA TTGGGTTTGG CTCTTGAAT GGGGGCTCCC ACACTGTGCA CGGGGGGCCA	540
TTGAAGCGGA TGATGTCAA CAGTTGAAGA CGAAGTTGGG CTTTAACCCA GATGAGTCT	600
TCATTGTGCC TCAGGAGGTT TATGACCTCT ACCACAACAG CACTATCCAG CCAGGTGCGG	660
AGTCCGAAAA GGAGTGAAC GCTCTACTOG AGAAGTATGC GGTGAGTAC C	711

(2) INFORMATION FOR SEQ ID NO:693:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

5 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1458RP

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:693:

15	GATCCGCAGT AGCTGATTGT TCGGGTGGCC AGGCGAATAT TGCTGGAAGC GGTTCAGGCG	60
	CGTATATTTC CTCTGGGAC CGCCAAAGTA CCGCCGAGG TTACTCTTGC TGGTCGTACT	120
20	AGAGAAGTTG CGCACTGCCC TAGCAAGTGC GGTCCTAGGT ACGGGATTTA GCTTCGCCAG	180
	TAATGGTGTG AAGACGTTGC GAAATGGCAC AGACCCCTGT ACTGGTCGCA CTTGCAAGTG	240
25	GATAGCGTTG CTAAGAAAGA AACACCGCCC ATACGAGCGC GTGAACGTAG ATAAGCTCAT	300
	GGTCAGCAAT CAACAAGCCT AATGATGATC TTCCTTACAA AATGAGGTTT TAAAGCGAGC	360
30	TTAAAAAGGG ATGCCCAACG CTATGTTTGA CACCTATGGA ATATCGGTAT GAATGACTGT	420
	GTATCATTAA CGACGGTACT TCCTTACAGG GCAATGGCAG GATGGTAACG CCGAGTAATG	480
35	TCCAATAATC ATCATATATA CTCTAGTTAT ACGCTATGAG GGGTCATTTC ATGTATTGTT	540
	CGTTCGGCTA TGGGCTATGC TTCAAATTGC ATGAGGTTGG GCAGCTGGCC ATTGCTAOC	600
40	GCGGGTGGCA TGTTCACTTT CTCTAGTCTC TTTTGTGGGC GGTGTCTTTC GTCTTGGTCC	660
	ATGTCAAGGT CCAAGAGATC ACAGAAAA	688

45 (2) INFORMATION FOR SEQ ID NO:694:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

50 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

55 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1458UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:694:

10

GATCTGTTGC ACCTGCTATT TCAGGCAGAT TTGTGCTGC AGCAGGCAT GCCATACTA 60

TCTGCTTTGG CGCTGCTGC GCGGAGTTG CCGGGCTGG AAGACAAATA CGTCTCAAA 120

15

CCGCTTTTG ATTTCCCCAC ACGCGCCTG CCCAGAAATG ACGCACCATC AAGAGCCCTT 180

GAAAGCCGG AATCCGGTAC AAGCTCCGAG GGGACCATCT CTGCACACCA CACCGTCTGG 240

20

CGGTGCGCA AACTTGACTC ACGGCCAGCA CCAGAAGTC CGAAGCCCTT TOGGAAGCAT 300

GCACCTGGT TTTCTTCCC GCTGGGCGAC GCGTGGCTGA ATGGCATGA CCTGGGCACT 360

25

TTTGACGCC TGTTCAAAA GCACTACCTA AGCACCTGC GCTTATTCT TGCAGCGCC 420

AACCOCATG CAGAATTGA CCGATGTCC GAACTCATGA GCTACGTTTT GCAGGACCT 480

30

GAGGCGCAG ATATCAGCAT TGAGTAGCC GTGCGCATG TGTCAGGCA TCTGTGACA 540

ACTCTGCTT GCAAAGTGA TCCCGACCAC TACCATGCAT TAGTATGAGA TCTATAGAGC 600

35

GCCAATGCA CGCTAGAGA GATGTGAAC TCGCAATGCA TCTCTGGGA GTCTCTGTTG 660

COGGCAGTAT CTGCTAGTAC ATACTCTTTG TAACTCTACA GAGATGTGAA GTCTTGTTAC 720

40

CCGG 724

(2) INFORMATION FOR SEQ ID NO:695:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 569 base pairs

(B) TYPE: nucleic acid

50

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

55

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1459RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:695:

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10  GATCATGCTG GGGCATATCT GAATGCTCTT GAACAACCGA CTAGATTAAT GGAGCCTTGC      60
    ACTCAGAGGC TTGGGCAGGA TGCAGCTTAT GCGGGAGCGG CTGTTGGAGC TTTACAATAC      120
15  CAAGCAATAT GTGGTGCTGC CCCAGATGA GACAGTAAAA CTGCAGCGAG AGGTGACGGC      180
    GAGCCTGAAC TCAGCAGATC CAGGACTCAA CGACGTTGAC CGCATGGCCC TAATGGAGAT      240
20  GAACTTCTAT TTGTTGGTGT ACATTGGCGA AGAAATAGAA GCAGAGTGTC TCTACCGCAC      300
    ACTTGTGGA CGTATAGGTG AGAACTGGC CCGGATGCAC CTCATGAAGG CTACGTTACT      360
25  GCAGGTTACA GAAGGTGATC CCGCTGCCGC GAAGTACCTG AAGAACTGC TTGAAAAGCA      420
    GCTTGAATAC GATACAGATT CCGTGGATTA CCTGCAGGTG GCAAGAAGC TAATTGCGCT      480
30  GGAACGGCCC GCGTTGTCCA CCGAGCTGTG GATGAAAAAG CTGCTGTCCG CTGCTAGAGA      540
    AGTTTCCACT GGACGCCGAA CTATGGTGG      569
35

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(2) INFORMATION FOR SEQ ID NO:696:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 572 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1459UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:696:

GATCACGTGC CTGGACATG GGGACTTCAT CCACTGGGCG CCAGCTACGT GGTATATGAC 60
 5 ATTATGGCCG AGAGGTTAAG GCGTGAGACT CGAACTAAAT TGAGGATCT CTGGGCTCT 120
 GCGCGGCGAG GTTCGAATCC TGCTGATGTC GTTATTTTTT GCTTGGCGCG CCTACGGGG 180
 10 GCTGTATTTT GCTTGTGCT ATTTAGATAA ACGAGATAGC TAACTATGG GTAGAACTCG 240
 CGGTACTTCC CGTAGTAGTA GGCTGTGCGG AAGCCGCGCA GGGCGGTGAG CACCAGCGG 300
 15 ACGGGTTTGG CGAAACGCGA TGSCACGCT CTGATGAGGC CGTCAACAG CATCACGGAG 360
 CTCGGCCAA GGGCGAGCTC GAGGCGGCGC TCTGGTTCT TCGGAGCAA GTACCTGCT 420
 20 ACAGCGTAGG TGCTACCAA AACGAGACT GCAGCCAGCG AGGCACAGA CCTTTAGC 480
 CAGTAGCCA TOGAGCACG GATGACGGTG AGCGCGCGA GAGTGAAAGA GGGATGTTCC 540
 25 CTTGCGGTGG TGGTGGGTGG TGCTGTGGG AA 572

(2) INFORMATION FOR SEQ ID NO:697:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1460RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:697:

50 GATCGGGTG GAGACACGAA AGTAGACAGA CACGACGGC TGTGGGTGG AAGGAACAC 60
 CTCGTGGATA CATTCAGCT GCGCAAAAG ACACATAATT TCTATGTGCT TGTCACGAG 120
 55 CTGATAGAGA TTTTGCAATT CGAGGGGAGC GGCTCTGACT TTTTGCACCT GCATAATCAG 180

CTGTACCCGC TGGAGCTCAA AGACAACGAG CCGGCCCTTGC TTGCAGACGC TGGGTTGATC 240

5 AAAGGCGAGC TGGGCTCCCC ATACTAAGTT ACTGCCTCTT CTTCATACAT CATTTTGGT 300

GCTGCTATTG TGGCGAGCGG CTGTAGGATA ATAGATGACT ACTGGGAGCA GCGCTTAAAG 360

10 GAGCAGGAT TCACCATGCA CCACCGTGTG TTCTCTCTGA ACGGCACGCA ACTTTCATTG 420

CTACGCCTGC TGAAACCCCC GCGTCCAGAA TCGCATCAGC AGGGTGAGAA GCTGGATACC 480

15 AACTGGCTAC AGAAGTGGGA GGATCCATAC CCAACGATCC AGGAACAACC AAATGCTGAA 540

GCACGGCGGG AATACGCTAG AGAACACGCC AGAGGTGAGC ACATAACGAT GATTGTTCCA 600

20 GGTCAAAGTA TTAGCGGCAG TATAGAACTG AGCCTAAATT ATAAACTTCC TAAGTACCAC 660

TACAAAAACT CATTTGCTAA TGGGTGA 688

(2) INFORMATION FOR SEQ ID NO:698:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1460UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:698:

GATCCAACAA TTCCCGCAGC GCGCTCCAG CCGTGTCTC CGTCGCATCA AATGAGTCCA 60

CGCTGTCTC AATCCCGCAC AGCTGCGTC CATGCGCCAC CTCGAACTGC ATCCGCGACG 120

CAAACAGCTG GATAAACAGC CCGTCTGCT CGCACCCCG CCGCAGCTGT CCAAAGAGCG 180

55 CCTCCGACC AGCTGCTATA TCATCGCCCC AGAACTCTC TAGGAATGCC CCGATCGCG 240

TGTACCTOGT CGTAGTTGTG CATGTCGCTG CCTCTTCCGG CTGAATTTTG ACAGTCTGGC 300
 5 CCCCCACCCC AGCTCCGGAA CGCTACGTAA TACAACACAC AACCAAATGC CCTA000GAA 360
 GGTCGCAATC GTCTTCTGCA CCGGCTG00G CTGGGGCTTG CCGGCAAGCT GGTATGCTCA 420
 10 AGAGTTGCTA CAGACTTTTG GCGACTCCCT AGC0GAGATT G00CT0GTAC C0GGTCCGTC 480
 CCGTCAATTC CAAGT00TCT GTTACGCAAG CCAAGAACAA GAGGCCACGG GACAGCGGCA 540
 15 ACACCATCTG GGAT0GGGCG CCGACAATG GTTTT0CTGA TAGTAAATAT CTGAAGCAGG 600
 CTGTCAAGCC ACTCTTTTTG CAGACAGCGG AACCGCCTGG GCGCCACAT 649

(2) INFORMATION FOR SEQ ID NO:699:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1461RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:699:

GATCAAACCA CCACGGCACA TCATCATAGT TGATTAAATC AATTAGGTAA GGCAACCATA 60
 GTTCGAGACT TTGTTCTGT ACCATTTTCT TGGGATTAAA GAAGTAGGGA GTCACGAGGA 120
 45 AATGCACCGC ACATGCTTTG AGATTGGTGT TTTGGATTIT TAGAAGGCCA GTAACGAAGA 180
 CCGTGAACGA GCTGTCCAGC CATAGATTAT TTTTAACTGG ATGAACCTTG TAGCACTCGA 240
 50 TGTATAGGAC AATCGCCAAC CAGAGCAATG TCTCGTGCAA CCGGTCTCTG ATGACAAGCG 300
 CACGCGGGGT GCTCGTGAAT GGTAGGAGTT GGTTCCTTCC TATCCACCG TTGCTAAATG 360
 55

CCATGTACTC TTGTCCTTG GGGTTCGGGG CGACGCTGAC CTTTAAAATG TATTTCAGGT 420

5 CCAACTGGTG ACCATAGGGG TCCACTAGTG ATAGCATGAG TGCCCTTAAC GGCAGAAGAA 480

GCCCTTCGGG AAGCGAAACC ACCTCCCGGC ATTTCAGCAC CGCAGACATT AACTCCAAAA 540

10 GCGTGTGGC CCAGGAGATC TCTGCTCGGG AGTCATCTGC TTCTCATTCA TCCCGAGGA 600

AGTGATCAA AAGCCCGGGC AAACCCACGG GCACAGCCCG CGCACATCC GCGTCCCAT 660

15 TACAGTAGTC TATCCACAG TTGTTCAA 688

(2) INFORMATION FOR SEQ ID NO:700:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 728 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1461UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:700:

GATCGGCAG TTAAACTTA AAGTTGATAG AGTTCCCGTC GTGCTCTCTG GATACAATAG 60

40 AGGCCACCGA GTCGAGTGG CCGTGCAAGT AGTGCCCGCC GTAGCGCTG TGTCCGAGA 120

TGGCCCTTTC TAGGTTGATC TTGGAGCCAG CTTTCAGCT GCTGACTTCC GTCCGATAAA 180

45 CTGTTTCTGG TCGATCCCG ACCTTGAAGC TATCGCGGT GAACTCCGTC ACCGTCAGGC 240

AGATACCATT GCATGCAATC GAGTCACCGA TGTGGCAATC CGCCAGTATC GGAGCCGCAT 300

CCTTGATAAG GACTGACACA CCGTTGCCGC CTGCTCGCT GGCATCGTTC TCCAAGTACT 360

55 CAGCAACAGT GCCAATGTGT TCCACTATAC CGGTAAACAT CCTATCAACT TCTATGGGG 420

ATATAGGCTT CGGTATGCCA TCTATGCATC TTCTTTTCTG CTACCGGAG CTTTTTAAAC 480
 5 TCGTAAGACA TGCATAAGGA AATGGCGGTT CGCCATGTAG CTGACTAATA AACTAGAG 540
 ATACGACTAA CTATCTGATT ATACTTTAGG ACTATCTCTC CTTGGGCTGG TCACAGAAAC 600
 10 ATCGTTGAGC AAGTCGGGTC TATCGGGAAA ATCACTTGGT TCCTTTGTG TAGAGCTAAC 660
 TGCCTGAGAA GCTGGAAAGC GCTCTTTTAA AGTCTACTTC GAATGGTGGT GTACGCTCGG 720
 15 GTGCTGGC 728

(2) INFORMATION FOR SEQ ID NO:701:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 701 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1462RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:701:

GATCTTAATT TAAAATTTTA ATTAAGTATT TATAATTTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 45 AATAGAAAAC CATAAGTTAA TTGATTGATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAA ATGTTATAAA 240
 50 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAAATATT 300
 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTA TTAATATTAA GTGATATATA 360
 55 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420

TTTCATAATA TTTATTTTTTA TTAGTCTAGT AATATTCTTA TTTAATAGTC TACCCTTTAA 480
 5 TTGGATATTA CTACCTACTA AATATTTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540
 TAATAATTTA TTATCTAAAG TATATAAATT AATTAAACTT TTTTATTATT AITTAAAITA 600
 10 TTATTAATTA GTAAATTATA TTTATTTTATT TTATTAACAT AATTTTTTGG ATAATAATAT 660
 ATCATTATTA AATGGTAAIT TATTAATAAT TATCTTAATG A 701

(2) INFORMATION FOR SEQ ID NO:702:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 728 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1462UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:702:

GATCAATTAA TAAATGGTTF AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60
 40 CTACCTGATT TTATGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120
 ATTGAGITTA TATTAAATTC ACCACCTCTT ATTCATTTCAT TTAATACTCC TCTAATTCAA 180
 45 TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240
 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300
 50 ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCAITTAGG 360
 GGTGTGTACC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTAACTAAT AAAAATAATT 420
 55 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAAA TAAATAATAT 480

GTTATATTTA AATAGATCAA AATTTCAACA ATTTCATTT CATTTAGTAC TACCATCACC 540
 5 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACTTTAG CTTTACTAT 600
 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT TTATTAGTAG TTTTATTACT 660
 10 AATAACTTTA TGATTTAGAG ATATGGTAGC TGAAGTTACT TATTTAGGTG ATCATACTTT 720
 AGCTGTAA 728

(2) INFORMATION FOR SEQ ID NO:703:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1463RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:703:

GATCCCTGAG TCTGCTACCA AGGAGGTGGA GGAGGAGGAC ATCGATATCG AGCAATTGAA 60
 40 GCAGGAGATG AAAGGCAACA AGGAGGCTC TGCTTTGTAA GCTTGCTGTT TGCCGCTTGT 120
 GCTAGCCAAT CGTTGCTGAG ACTATCTAAC TTGTATACAT GCGCTATCG CGGCACGCGA 180
 45 AGCGAACACT ATAATGTATA TGTCAAGTTA AATACATCAT ATATTATCTT GTGCCTCAAG 240
 GGTCTTAAAG ATGTCATAGG ACAGTCGGT GCTCAGACAC ACGAATATAA TCATAATAAT 300
 50 AAATATATGG CGTCAGCTT CATGACCAGG TCAAGCCTTG ATACCAGAAG ACACTTCTAG 360
 GAATTCTCA ACGGAGAGA AAACACTAGG GTGTAGGTG TCATTGTCA AGGACATCTG 420
 55 CTCCTGGTC CACAAGTTGG CCTCTGGTAC ATAGTCTGGT TCACGACAC CCAATAAGCC 480

ACCGTGGCA GCCCAATCGC TGACACGTGG AAGCTGTAGT GTCTTCCAGA CGTCATCCAT 540
 5 GCGGTCCAAT AGGACATCG ACAGGTGGTT CGTGTGGCCT GGAGTAGGAA TGATACGGAG 600
 TCTCTGGTC CCGCGTGGAA CGGTAGGAGT TGAAGGGCCT GTACGTAGAT GCGATGCTCT 660
 10 CCATCAAAT GTCGGAAGCA CGCTTGGC 688

(2) INFORMATION FOR SEQ ID NO:704:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 704 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1463UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:704:

35 GATCAAACAG TAGAAGTATT AGAGCTGCTT GCAAAGGGCG TCATAAACAA GAGAGCTGTA 60
 ATGTGACAA ATTAAACAGA AAAATATCAT TATTAGTGA TAAATAACCA ACTTGCACTG 120
 40 AGAGTATAGT TCTACATGTT TATTCGGTAA CAGAATTTCT ATCCAAATAG TTTAATTCG 180
 TTTTACTTAT CTACGGAGTA GCAGTGCAAG AACCTTGTAT CCCAAATGC TAGAGGGACA 240
 45 TGCAGATGTA TAGTAAAGCA ACGTCTGTTT CTTTGGATTT AGCAGCGTCA GCGAACAAC 300
 AAAAATAGAA AGTCAACAGG GATTGGGAAG TTATGAGAGT TGATATGTTT GTCCATTAGT 360
 50 AAGTCATTCA GTTGATATGA GGTGCTTAAA TGTTTGTAAG AAGCAAGAAC GAAGAGAGAT 420
 ACAAATGTG CAGTTGTGAA TCGTGAAATT GACACCAGAG GACGTCACTT CCGTTGCCA 480
 55 CTGTTTGCCA ATTGCTTCTC GAGCTGCTCA ACCTTGGCCT GTAAATCTCT ATTGACTTTC 540

TTTAGTAGTT CCAATTCAAT ATGCGTTTCC TTGATCTTC CATAGCTGAG CAGTTTGGC 600
 5 ATCTCCTGGT TCTCTTTTGT CAACATTTTG AGTGGACAA TCATCTGTG AGGAGGGCT 660
 TCTTGTGAT AACGGCCGAA TCGGTAAAG GAATTAGAGG GATT 704

10 (2) INFORMATION FOR SEQ ID NO:705:

(i) SEQUENCE CHARACTERISTICS:

- 15 (A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1464RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:705:

GATCGAAATA ACTTCCGCTG AAAACGCAGC AGAGGCAGCC AATGGTCAAA TGAGGAGAGA 60
 35 ATATCCAGCA TATTTCTAGG GTACTGTTGC TTGCCAGTTG GTGCTCGAA ACATAACCT
 CAATGGCGCC CAGTGTGTG TACATACCCC ACACCGGAAA CAGACCATG AATGACCGA 180
 40 AAACCAACAG CCACGGCGGT AAGCCGCCAT CCGGTATTC GTTGGAGTTA TCGAGATATG 240
 CGGTTCTTC TTCTCTACC TTTTGTGCG TGAGAGGAC AGTCTGCTGA GGCACGTGG 300
 45 TCGTTGGGCC ATGCCAAAA AGCTCTTTGT CGCCACAGC TGTTGGCTCTG CCGCTGTCAG 360
 ACGATGGGCT GACGTCTAGG GCTACGGGCT CATGCCATG CCGTACTTGA ACGCTGTCT 420
 50 TGTGATGAC CACCATCGTT CCTAGCACGT ATGGGAGATG CTCGAACCG CGTCAGCGCC 480
 ACCACAGACC ATCTATCTAC TTAATACCT AATTATCTGG TGTCCAGCTA AAAATCCGAG 540
 55 TATCAGTCAT CCTGTGGCGG CCTTATCACC CATTAGGGTC CGTTTGGCG TAGTCATTA 600

CCGTCGGGGG GATTCATCCT CCAAAATGTC TCAAGCGATG CCTTGATTCC GAGTGTACAA 660

5 GGGCCAGATT CCAACGGGCC AGGAGGCAAC TAATAGAGG 699

(2) INFORMATION FOR SEQ ID NO:706:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1464UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:706:

30 GATCTTGGCG TTTTCTTCA GACCGGGTG GGTGTAGTAT TGTCTCTCT TAATGTTGGA 60

GTTGAGGGCG GACGAAGAGG GCGCAGAGGG GTCTGGCGAG GCACCGGTGG AAAGGGGCGT 120

35 GTGGGGCGGT TGCAGGGGCA GCGCGGGTTC GTCTGGTGG TAGTGTGAT GTTGGGGGCG 180

GGGGGGGGCC GACTGTGGGT CCAGCGGGTG GCGTGGGAC GCGAGCGCG AGAACTGGC 240

40 GTGCGGAAC TGTACTCTCT TCTGGGGTTC CTCGGGGCG CGCTTGGCG GCGGGTCCAC 300

GGCACGGGCG GGGACCTTGA GCGCGTTGGA GATAATGAAC TTGTGTTGGA CCGAGCCCTT 360

45 CGGATGCTTC TTTCGGCCAT TGGGTTTGGG GCGCGGGTTC TGCGCGTCC GCACGGGGCG 420

GGCGGGGGCG GCATGCAATT CGTCTCTGTC TGGGAGACT GGGGGGGAT AAACCTGGCC 480

50 AGGATGGCGT CCACGTTAGT GAGGTGGCGG TTGCGTCTCT CTCGGCTGC GTGGTGGTGG 540

TTGGGGGGGT GAGCGGGTGC CACCGGTCC TCTCTGTGG GCTTGGGCTC CTGCTCGGC 600

55 ATGCCCGGTT CGGCTGCATG CCTCCAATCG ACTTGGAGT CGTACGATCC CATCCAACGA 660

ACCCCGTAAC TTATCTCGAA GTATGCGTGC ATACCTATAC TGGTCGTTCA

710

(2) INFORMATION FOR SEQ ID NO:707:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 703 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1465RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:707:

GATCCACTTC TTGGGACACA AGACAATGGA GGGGGGCAAC GACTGGGAAA TCTACAACGA	60
CCCGGGCACC ATGGGOCACA GGGTCCGCTC CCGGAGGAC ACGGTGAGGA TCCTCAGAGA	120
GCTGTTCGAC CTGTAGGCGC CGCGCTAGC TAGTTCTTTG TAATTGCTCG ACATTTACAA	180
TGCATATTC TATATACACC GGGGCGAGCG CTCAGCTGAG CAGCGGTACG TACGCCAGCA	240
CGAGGGCAAA CGTACCGGTG CACACGGCGA TCAGCCACTG CATGACCTGC GTCTTGACCG	300
AGTCGATTTG CATCTTCATA TTA CTGACCT CCTGGTCAAT TCGGTGTCA ATCTCCTTGA	360
TCTGCAGATT GTGGTTGCTG GACTCCTCCC GGATGCGTCC CTTTTCACAC GAGAGATCCA	420
GCTTGAACCC TGGTTGCGC TTGTGTATCT CCTCTGGGAG CCGGTTCGCG AGCTGCTCTA	480
GGTCGTTTGG AATCCGCTCC TGTTCGTTCT GGATGGAGTG GATCTGCTG CCGTCCGCG	540
TCAGCAGTTG GTCCCGCAGT TTGCAAAAT CCACCCGCTG CTGGTACGTC AGCTTCGTAA	600
GCTTCTCGCG GGACGCTAGG TCCTGCGAGA CATGCGTCAC GCGCCGCGCG AGTCCGTCCG	660
ACATGATATC CACGATCGCA TTGCGCTGCT GCGTTGCTGA AGT	703

(2) INFORMATION FOR SEQ ID NO:708:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 619 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1465UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:708:

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GATCCGCCAA TAGCTTGATT CGATCGTCTG GTGGGGTACC TGCTGACTT CTCTTGCTCT      60
TCTCTATGTT CGTTGCTCAC GGGCGGAAAA CCACTACAGC ACAAAAAATT CACAAGGTCC      120
GGCGCACCAG CCTTTTAAAT TAGCGCAATG GCAGCGAGTC CTGGTATATA AGGCAAAAGA      180
CGGGAGGCGG ACAGCTACTA CAGGCTCATC GAGGCATGGT ATGTTGGCGG ACAGTGGCGG      240
CAGGGGGCAG GACTAACCTT GATGTTGGAT AGAATGGGTT GTACAACCAC GCGGTGAAAC      300
AGAAAAAGTT GCTGGAGCAG GAGCTGAATC GATTTGAGCT CGGGGTGGCG GGGCCGGTGG      360
GGCTGCAGGG TTCCATATCG ACGGCACTGG TGGACTGGA GGCACAAAT GAGCAGTATC      420
AGGCGCAGGT GGGCAAAAG GGCAGCGCG CGGAAGCCCG CAAGCATGCG CAGCGGCTGG      480
GCGAACTGAC GGAGTGGCA ACGAACCGCG GGGGGGGTT CGAGGGGCTG CGGGCGCGCA      540
GCATGCAGCC GGTGGGGTTC CAGAGCGGGG CGCAGCGCC GGAGGGCGCC GTGAACGAGC      600
CGGCGGGGGG GCGCGGCAC                                                    619

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(2) INFORMATION FOR SEQ ID NO:709:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1466RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:709:

20	GATCTCTTAC TTTTCTACT CACCAATGTC TTTAACAGAC ACCCAGAGTC ACGGCOGGCA	60
	GCTTATCTGC CGTGTCTGGG OCATGCCCCG CCCCCTGTAC TGGCCCCCTC GTGCTCGGG	120
25	TAGTCTCACA GCAACGGAGC TTGCTCCAAT TGGGCTGCAT TCTCCGACC ACAGTCTGTT	180
	TGTACGTGA CTCTCAGCG TCCCGAATGT ACATTCTAT TTATCTACTT CTTGCCGCT	240
30	TGCCGCCACC ACATCCGGTG CCGGCGAGCA CACCGACCGC GCATCGCGGC CCTGCGGTC	300
	GTAGAACTGC GCACAGCAG TGTACAGTGC CTCCTGTC GCGCGCAAC GGCCCTCTC	360
35	GTACCTGTG CGTTTCAGAC ATGCTGGAT CGCATGTC TGGGCTTGC ATGGGGCTG	420
	TCCCTCTGG CTGGCCGCG TATTGTCCAT GTTTTGTTT CTATCTGTTG GCGGTACCA	480
40	CGTTGTTGTA CCAGAGTACA TTGTGCGGT GACCCCGTGT AATGTCACC CGTGGGCCAC	540
	AGATGACCT GCACATGCC TCATTCTTTT GACCGCACCG TGGCGGAGA CCGCCACAT	600
45	GGGCGTGG CACTCCGAG ACACCCACCG GGCGCACTG CAAGGTTGC AGGTCCGAT	660
	GAGTCAAAAC AAACCAGGTG TGGCGCTGG CCGGTGAAAA TCGACTATA GAGAC	715

(2) INFORMATION FOR SEQ ID NO:710:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 694 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1466UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:710:

GATCTTATTA ATTTTGATGG TGCTATATTC TAAATTCAAG TAATGATAGC GCGTGATGCG 60

20 GTACGTACCT ATACATATAA CGCACAGTTC ACCATCGTCT ATGCGTGTAT GAAAATCACT 120

CCAGCCGTGC GACACGCCAC GGTGAATCTA GTGAGTTTCA AGTTCTTCTT CCTCATCGGC 180

25 AGAAAGTTTG CCCCGGGCGG TGAGGTTCTT GAGCGCTCC TTGAGCTGG CGATAAGGCT 240

ATTCTCCCTT TGAGCATGCA TGCAGATACC CTCTAGAGAC ATATGAGCCG AATCTGCACC 300

30 ATCTAAACCA TGTTCGCTGT TGCTGCCAGT GGCAGCTGCC AGTTTGGAC TGGACAGACC 360

TGTCGTCCA TCTTTGTAAG AATCCTCGGT CGTTGCCGAG TTGGAATTCA TGGTTCCCAT 420

35 AGTGTGCAAG ATTTTCTCTT CTCTGTTAG TTCCAGATGG GTACCTGTCA GATTGATCAA 480

GGACCTGCCG CTTTTACGGC GCGAGAGCTT GGGCAGAAGA GAGTGCCCGG TTGGCGTGGC 540

40 TTCACCAAGG TTTGTAATGG AGGTGTGAGA TCTCGGAGTC CTGGGTAGTC TCAGACACGA 600

AGCACCGGCA TCATGTATCC ACTTCGCAAC AAGCGAAGTC CAGCCACACT GGTGTGATGC 660

45 GCCCAAGCCC CTACCAGTGT CACCATOGAA GTAT 694

(2) INFORMATION FOR SEQ ID NO:711:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 690 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1467RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:711:

GATCGCAGAC TCCGCCGGAG AGACTTTCCG ACCTCGGGCA CAGGTCTTGA AAGAGAGCTC 60
CGGCGGTTCG GTGCCAGACT CTGTGTTATC ATGTCCGTAA GAGCAGCGTT CGTGCCAGGT 120
ACGCCCTTCT TGTTCGTGTT TCCACCAATT GATGGAATTT GAGACGTGAA CCTCTGCGGA 180
TTCRRKCTAT TGAGCACACC ATTGGCACCA CTGAGCCCC TTCGCTCTGC CATCCCTAAT 240
CGTCCTATCC TACGGCCGGC TAATAAGTTA CTACCAGACT CTGGCCCTCA TCTGGGACTG 300
ATGTTATCGT CTGCAGCCAG ATCCTGTTTG TGACCCGATC GAAATCATCG AGTACGAATA 360
ACCACGTGAC CATTATTCAC GTGATGAATT TGGCGGTCCG TGTTGCCGAC TCTTACTCCA 420
GGTTAACCAT GACTAGATGG GCATACCTCA GATACGTTAT TCATGGGATC CGGAGTTGCC 480
GCGTCGGCGG AACCGCCCGG TGAATCTGTG CTGACGACCT AAAAAATAGT GTGCGCAAGC 540
TTCTTAATC TGTGAGATGC AACTGACAA ACTTGAAGGC TGAACCATCA AAGCGATACG 600
CCTCATGCAC GTGCTCAATA AGGTCCAGGA AGTCTCGCAA TGGGCAAGC AGACGGTAGA 660
TTGCAAGACA CAGACGATTG GGTGTGCCA 690

(2) INFORMATION FOR SEQ ID NO:712:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 700 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1467UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:712:

10

GATCGTCCGA GTGCAAAATCC ATACCAAAAA TGTGGACCCA GGTACGGGAT TCGAACTTCT 60

15

CGAAGAAAAA TAGCCTCAGT GAAGTGCCCA ATTGCCTTAT AGTCGTTTTC CAGAGCATAT 120

20

AGAAATGTGG GACAAGGCGG TGGGGGGGCT TGTGGAGCC GACGGAAGAA GGGATCTGGG 180

CGGGAATTAC GGCGGTGAGA GGCAGGGGTG CGGAAGAGAA AAAGGTGAAG CGAGTTGTTG 240

25

CCATGAGCGA GATGCAGCAG CCAATACCTA TCCCAATGGT AAAAGAGGCG GTCCAGATGG 300

30

CCCAATGGCG GAGGGCAACA GGGCCCGCGT CCTTTTTCGG CGGTCTGGG TGCTGTTTCT 360

TGGACTTGAC GGTGAGCTCG GTTTCATAGC CGGACTGGGA CTGGTTGCAA AGGTTGTGCA 420

35

GGTGCTTGAG CAGGCGGTGC TTCTGTGGT GGTGGACAT GATTATAGGG CTGCAGTATA 480

CTCGGATGCA TTTGGGTGCG GTGTAGCGCT TCAGGAGAGC CGCCAGGTG CTCTTCTGGC 540

40

CCTTCTGGCA CACGGGAATC ACGGTGGGCG AGGGCGCCTT CTCGCACAGG CGGTCCAAGA 600

GCTCTGGCGC CTGCGCTATG TGTGGAAGA CCACCATAAC CGGAGGTAC CGCTGGGCGA 660

45

CGTCCCAGCG CGTGACCATG CCGAGGTTCT TCACGTCAAA 700

(2) INFORMATION FOR SEQ ID NO:713:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 689 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

50

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1468RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:713:

10 GATCTGTCG CTCATTGTG ACCTGCAAAA AGTGTTCAGA AGGAAGGCAA CATGTGTTTT 60
 TAATCCTACG GCGGTGGCCT CAGAGATTGT TCACTCAATG TGTTCATCA TTATGAATGG 120
 15 GTGCGCGGCG CCTGCGCGGC TCGAACCGGC GCCACACGGC CTGCGCGGCG CGCTGCCCCG 180
 CTGGGCACG CAGGGTCCAA AACCCACCCA AACTCACCGC GCGCACCGG CTACACCGCC 240
 20 GCCAGCACGT CAGGTGGGT TACCGGCCCT GCGGCACTG AAAATTTTTC GCGGCCAACA 300
 CTATCGCGCC CGAAAAGCA ATTGCGCGC CAACCACACA ACGATCTGTT ACGAACAGG 360
 25 ACAGGACTCA TGCCCCGTTT CCTTCTTTAT TTATTACTA GCTCCACATA GATATTTTTC 420
 ATATTTATAT GGTGTGTTTT CTGCGCACG CCGCAACCCA GCACTTAGCA GACCACGGG 480
 30 GCAGGACTG ACACCCAGCC AGAACAGAAC AACACAGGC GACCTTACAA TGAGCATGGA 540
 AACGCCCCCT GTAGATATG ACAACATCAT CGACCGCTTG CTGGAGGTGC GGGGCTCGAA 600
 35 GCGGGGCAG CAGGTGGACC TCGAAGAGCA CGAGATCGC TACCTGTGCT CCAAGGGGCG 660
 CAGCATCTTT ATCAAGCAGC CCATTCTTC 689

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(2) INFORMATION FOR SEQ ID NO:714:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 620 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1468UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:714:

5 GATCTCAGAA TTATCGGCTA GCAATTGATA TTAGCATACT TAATTGTGTC TAAATACITTT 60
 GGCATCGCAT CTAGACATAG GAAGTAACCT CAAAAAGCT ACCGAGATAG TAAACCTGGA 120
 10 AGAGAGATTG CGCAACAACA ACGGCCAGTT GGAAAATAGA CCACCACTTG ACCCTGTGAT 180
 TTGTAGACTC AGCAGTGTTT CTGTGTGTGC GTTCGGGAAT CTCGATGTAC TGTGTCTGCT 240
 15 TCATTACTTC CATTTGTGAGC ATGAGAGAGCT TGCGCACCGC ACCCTCTAGC GTCTCCGAGC 300
 TGAATCAGC GGCATCGGGG GAGAGAACAC CGTAGGTATT AAACGTGACA TCCTTAGTCA 360
 20 GGTAGCCCGA ATTGTGCTTC GCAAAGCAGT ACTGGTATTT GGCATCTGTA GCGCCCTTCA 420
 AGGTCAACTC ACCGTGGGAC GACGCAAGCT GGCATCCAG CACTGACCGT CCGTCAATCC 480
 25 CGTACACCAG CAGGTCTCCA GACAGCTGTT GATGTGATTG TGGGTCTCTG TCGCCGAATT 540
 GATAAGTGAT TGTACGACG TCCCCGCCIT TCAACTGCTC AAAGAAACAG CCGCGCCCGT 600
 30 AGGGGGGAAG AAGTACATTG 620

(2) INFORMATION FOR SEQ ID NO:715:

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 686 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

40

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1469RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:715:

55

GATCAACTAC ATCTGGGAGC AGCAGCCGAA TTGTAAGGTG GCCATCATAG CATATGACAA 60
 5 GTGGCTGGGT TTCTTCAACC TGGCCCGGA GTGGAGCAG GCACAGGAGC TGATTGTGTC 120
 CGAGCTCAGA GAAGTCTTCC TGGCGTGTA CAGCGGCTC TTGTTGAGGC CTGGCGAGGC 180
 10 AATGCATGTC ATACAGGACA CGTTGGTCAA GCTCGAGTGG TTTATCCAGG ACGACAAGCT 240
 CTGGCAGGC GCCGAGGGGT GCTTCGGGTC GCGCTGGAG GCGCGCTGC TGGCGCTGA 300
 15 CACTGCCACC AATGTAATG GCGGCAAGAT CATTGGGACT CTGAACAGC TGCCCAACGT 360
 GGGCAACGC AATCTGAGC TGGCGGGA GAGCGGCTC AAGAAGAGC TGAAGTGA 420
 20 CAACAGCTTC TACACCGGC TGGCGGACAG GATGCTGAAG GGTACGTG GCTTGACCT 480
 CTCTGCACA GGCAGGCT TCATGGACTT TGCCAGCTC GGCACCCCG TGCTGGCCAC 540
 25 CTCCGGGAG TTCCGCCACT ACTCGAATT CCAGCTGAC GAGAGGTT CCGCTGGGT 600
 CAACGACATG CTGCAGCCG TCAGCAGCAC CGTCGGCTAC CAGGCGAGC TCAAGGTGG 660
 30 CTGCTCTCG GGGCTGTGT CAGTCG 686

(2) INFORMATION FOR SEQ ID NO:716:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 572 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1469UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:716:

GATCGGGCGA GCAGGACTAG AGATGAGCAG CAATGACAGT GATTATCTCC TGGTTACCTT 60
 55

CAAACTCTTC ACTCTCTCA AGAACTTGTT ACCTGATGAC TCCTTCTTAT TGTCTGTGTC 120
 5 ACGCGGGGCC GTGTAGGCGT CTTCGTCTG CTCCTTCTCG TCCTCAAGAT AGCCAGAGTG 180
 GGCTTTAGTC AGCTTCAGGT TGCCGTTCCT GGGGTGGGG CCAATGGCG ACGGGGACGG 240
 10 AGGGCTTTTC GCCAGCCTGT GGCTCAGAGA CTTCCTCTTG CCCACGTGC TCTGCTTCAT 300
 CGCCTCTATA GCGACAGGG GCGCGGGGC GCGGTGAGG AACGTGTGG AGCCAAGCCC 360
 15 CTGTGTCAG GGGCCATGCA CAAGGTCCG GGTTCCTTG GGTGGAAGT GCGTCACCTC 420
 CGAATGGTTC TTGATAGCGT TCACGTGGA GACGAGGC TCGCGACGT CGGGGGCGA 480
 20 ATACAGGTAC GAGTGTGCT CCTCGTCGAT GCGAAGACC TCGTTCATCG CAGACTTGTG 540
 TCGGTGGCC CCGACAACT CGAGTTCGGC CG 572

(2) INFORMATION FOR SEQ ID NO:717:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1470RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:717:

GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACRAC GGGGAATTAA GCGGCTTTTC 60
 50 CAATATTTTG AGCGTCGTTT CATAGCTCGG AAGACGCAGC AGAAGCCCCC CCAGTAGTGT 120
 CTGTTTCATGT TGCTCATGA AAGGTGTCTC TATCAAATCT AGTCCATCA TGCAGAGTA 180
 55 GTTATTATCT TTCTTCCAAG ACAGACGCAC ATGCGCAAC TTGTCAGGA TTACAGTAAA 240

ATAATGGTAG AACCGCGAC TCACAGAATC GACGACCGCT CGAAATGAAG TGGGCCCGTA 300
 5 GAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TCGAAAGTC TGTTCACGGG 360
 GGACACCGTG CCCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT 420
 10 CCGCGCGAGC TCAGTCTCAA GCTGTGCGAT CGTCCGAGC AGCTCCACAT TGGCGGTTCG 480
 AGCTGAACAG CTCCCGTGAG TTCACGTGCT GGTAAACTC AGACAGGTAC ACACACTGGG 540
 15 GCAGGCCCTT CCCAATACAT TTAGAGCACT TGGGCCGGC CTGTGTCAC TTGACGGGCC 600
 GCTTGCBCA GAACACGCAC GACTTCTGA CCTTCGCCT GGTTCACACA ATCTTCCAT 660
 20 CGGACTCTGC CATCCCGCA GCTTCAGCAA AATGAGTAG 699

(2) INFORMATION FOR SEQ ID NO:718:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 655 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1470UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:718:

45 GATCGCGAC GTGGAACACT GGCCGGAGAT GCGCGCGCC ATCTGGTGG TTCTGCGGA 60
 CGCAAGGAC ACGCCATCGA CGACGGTAT GCAGCAGCG GTGCACAGT CGGACTCTT 120
 50 CAAGGAGCG GTGCGACCG TGGTGCCGG GGGTACCGA GAGATGGCG CGCGATCCG 180
 CCGCGCGAC TTGCGAGCT TTGCGCGCT GCGATGCAG GACTCGAAT CGTTTCAGC 240
 55 CACCTGCCCTG GACTCATTTT CCGGATCTT CTACATGAAC GACACTTGC GCCGATTGT 300

CAAGCTGTGT CATCTGATCA ACGAGTTCTA CAACGAGACC ATCGTGGGGT ACACGTTTGA 360
 5 CGCGGGTCCG AACGGGGTGC TCTATTACTT GCGGAGAAC GAGGCGGGC TCTGCGGCTT 420
 CCTCTCTGCC GTCTTTGGGG CCAACGACGG CTGGGAGACC ACGTTCTCGA CGGACGAGCG 480
 10 CGCCACTTCG CCGCGCAGTT CGACGAGTGC GTGGGCGGCA AGCTTGGGAC GGACCTGGAC 540
 GACGAGTTGC ACAGAGGAGT TGCCCGCCTC ATCTTCACGA AGGTGGGCA GGGCCCCAAG 600
 15 AACTAAATC CTCGCTCATC GACCCGAGA CCGGCTGCC CCGCTGACG TATTC 655

(2) INFORMATION FOR SEQ ID NO:719:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 708 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1471RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:719:

40 GATCAATTAA CTATCTAGAT GAGTCTAATT AATTAATATA CTTAAAAGTC CCGTTAATAT 60
 CATTAGCTAC CCTATCGGAA CAGACCGTCT GCTACTAGGC CGAAAGGGTA AAGCAGTTGT 120
 45 CAGTCAGTAC TTGCTGTTCG TTATGGAATG CCTGTCATAT GCGGCAGCT TGTTTGTCAC 180
 TGGAGTAGGG CCGGTGCGGC CTTGCAGAGG GTACCCATGA TTCTGAAGC CAAGGTACCA 240
 50 CACCTTCCTG CCACATCTCC TCGACCTCTT CCAAAGTCAA ACCCTTTGTC TCGGGACAA 300
 AGAAGAAGAT GTAGAAGAAC GCAAAGATCA AACAACCAT GAACAGTAG CCGTAGTAA 360
 55 ACCTGATGCG ATTGGTAATG TATGGTGTA AGAAGGCGAT CAAAAGCCC CATATCCAAT 420

TCGGGGCTGT GCGATAGCC ATGCCCTTGG CTTTGACTCT TAATGGGAAA GTCTCGAAA 480
 5 CAATGACATA CGCAATTGGG GCCCAGGTAG TTGCAAAGAA GAAAAATGTA GAGGCAGSTA 540
 AAAACAATCA TAGCATTGCC TGCCGGTCTG GAAGAAGGCT GATCGGGTCC ATTGGGCCAT 600
 10 AGTCTTGTCA CACCAACGGA GGCAAAAATA ACCATACAAA CGGCCATTGC CGGGGCACCG 660
 TAGAAGCAAA CATTCTCTCC TGCCAAATCT ATGACAGTG TTACATTG 708

(2) INFORMATION FOR SEQ ID NO:720:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1471UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:720:

GATCTTGGC TTCTTCTACA TGTTCTTCTT TGTCACAGAG ACAAAGGGTT TGACTTTGGA 60
 AGAGGTGAG GAGATGTGGC AGGAGGGTGT CGTCCCATGG AAGTCCGAGT CCTGGACTCC 120
 40 TTCTTACAAG AGAAATGCTT ACGAGACTGA GGAGGTGAAG CCAGAGAAGA CCTGGGCTTA 180
 AAAACTTTAA ACTACAAACT TTTTGTCTCT GCTAATCATC GGGTTAAAC CTAAACCTAA 240
 45 TCTAIGTTCA TTAATATTGT TATGACGTTT ACGAGATAGC ATATGTAAAT TACTATTAAA 300
 AATATGCGAT TAATCTGTAT TTATTAGTTG TAATTGCAAT GCCATATGAT ACTGCAAAGC 360
 AATACATGCC GAGATAACCA ACGCCACTGA GCGGGGACTG GCGCCCTTCT CCGCCCCGGC 420
 55 GAACATGCCT GTCGTTGGTG GCGCGGTGTC CCGTCGCCCG CCAGCCGCAT GCGCGTGTCT 480

GGTCATCGCC CCACTTTTCAA ACTTTTGTAAAT CGAGCAGGAA ATTAAGATTG GTTATAAATG 540
 5 ATATCAAATT TTTCGTGTT TCTTTTCAGT GAGTAATATT GTTCGGGCAC CGCAGCGCGA 600
 TGATGCGGCT ACATCGCACA GGGCCAAAGC ACAGGTGCTA AACTATTGCT TAGTTGGCGT 660
 10 CGTTGAGCTC GTTTATGCTT AGTGGAAATAT CTGCAGCATA TTCAATATCA AGTCTGAA 718

(2) INFORMATION FOR SEQ ID NO:721:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1472RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:721:

GATCTATCTC CCAGCTTAGA GAGACCGTCC GGATGTAAGT GATACCCAGA CAGCCAATGA 60
 TACTGGTCAA GTTTTGTAAGT TTTATAAGAA AACATATATT AAACGGCTAA AGACAGAAGG 120
 40 CGAAAAGCCC GACTTTTATG GCGGTAGAAG TCGTGAAAAA GCGGAAAAAC TATATTTCOA 180
 CTTAGGGCTC CTCCTTCCTC ACGTAAACGC GCATCATCAT ACGCCTTCTG TGAGTCAAGA 240
 45 GCCTACGAC ACGCGTGCA TTCCCTCATA CAACCTTGCC AACACATGAT CATGTCCAAG 300
 GATATTGCTA CGACCCCGA ACTGTCCGAA CCAGACAAGT ACTTGGTTGA GCAGCGCGAT 360
 50 TTGCTGCTAC AAGAAATCAC CTCACGTTA GACTCCATCC TGAACAACCTT AAATGGCCTG 420
 AATATTTCCC TGGAGAACTC CATCGCAGTA GGCAAAGAGT TTGAGAGGCT GTCCGAGCTT 480
 55 TGAAGGTCT TTACGACGG ACTCGGGAAC GGAGCGGCTC CTGGAGTTGC CGCAGCCAAC 540

CCGTGCTCTC AGGACCTGCC CACTGAGCCC GTGCCCCGCG ACCAGAATGC TGCAGCGGGC 600

5 AATAGTGACG CACCAGCGCC ATGCGAGTAG CGTTTGCACT CTGCCCTGGC TTACACCCG 660

TGCACCCACA TTGCGCTCTA CTTTATGTG TCATC 695

10 (2) INFORMATION FOR SEQ ID NO:722:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 719 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1472UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:722:

30 GATCTGATT GAATGCCAAT GAAGGTTTAT GCGCGTCACG GGAGGTATAA CAGACTTGTA 60

35 ACGACTTTTG GTAAGACCCA CGGTGAGGAA GATAGCTGGT TTAGCAGOGA CGATGAGAAC 120

CACGGCAGAC CAGTTAGOGA CGACACAACC AAAGTCAGCC TGAGCCAAGA TOGATGCAGC 180

40 GAATTACCGG AGGAGACGAT AGGTGCGAAT AGAAAACGTC CCGCGGAGCG AACGCAGACG 240

GATCCGGTGT GGGAGTTTCT GGAACGGCCG GCATCGGGC AGAAGCGGAG AAGACGACCA 300

45 ACATGCGATT CTACAGAATA TAGAGAGAGT GCCAGTCAAG AGTTTCTAAA CGCTGTGAAC 360

GTTGTGCAGG GCATAGTGTC TTCTCTCAAG CCTGCAAAAG AGGTAGTTGA GCACTGGGCG 420

50 GAGCTTGAGG ATGTGCCAGA GGATCGGGC AATAACGGC AGGCGGTCTA TGCAAAACA 480

AGAACATGCT TGCAAAAGCG GAAGAGGATT CTGACACGA AGCTGCTGCA CATGAGTCTG 540

55 ACGAACCGCT GCACAGGGCG ACGAAGCACT ATGCGGCAC TTTAATGAGC TCGGTACGAT 600

GGGCGAGACT CTTAAGTACA GCGAAGATCT GGACTTTATA TTGTCCGACA ACTCCATGAC 660
 5 GACACCGGAA CATAGACGCA CCACATGCTG CGCTTGTGTC TGGATATGAT GAACAAOGA 719

(2) INFORMATION FOR SEQ ID NO:723:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 675 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1473RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:723:

GATGCGATCA TCTGTACAC CAAGCGCGAC GTCTGGGCG CGCCCACCCC CGCCGGGCTC 60
 30 CACCGCTGGC ACGCGAGAC CGCGACGAC TACATGCTCC TCGAGGCGCG CAGCGCGCG
 GACGCGCGGG CGCTGCTGC CGCGTGGC GCACGCTACG ACGCGCGCG TCGCGCGGCC 180
 35 GCGCGCTCC CCTCGGCTA CGCGTGTCT GTTCGGGCA TCGCCAAAGT CGGCAAGTCC 240
 ACGCTGGTCA ACGCGCTCC CGCGTGGC ACGCGCGCG GCGCAAGT CGCGCGCAC 300
 40 GCGCGCAC CGCGGTAC GCGCGTACC AGTGAGTGG TCGCATGG CGATCACCG 360
 GCGCGGTCT TCATGCAGCA CACCGCGG GTGCGCTGC CGCGCGCG CTCTCGGTG 420
 45 CGCGGATGC TCGCGCTGC TCTCGCGG TCGTGGCG CGCGGTGT CGACCGGTC 480
 ATCGAGGCG ACTACTGCT TACTCTCTA ACCTTCAGG CCTGGCCCC TCTAGCGCG 540
 50 CTTACAGCCC CCGACCAAC GACATGCGG CGCTGCTGC CGCGTGTGC ACGCGCAC 600
 GCTTAGGTC CGAGACGCA GCGCGCTGC ACTGCTTGC CATCGGCG CGCGGCTCT 660
 55 GCTTGAACC GGAAG 675

(2) INFORMATION FOR SEQ ID NO:724:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1473UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:724:

GATCTAGACG GAGTTATTAT GCGCGGCAC CTCAGCGAC TGATACTCAA GAATGTGGCC	60
TCCGTGGGGT GGTGGAGGTT CCGAGAGATC CACGAAATTA CGCTAGATCC TAATAAGTTT	120
ACCAAGAAAC AGGGCTTTGT GGGAACTATA CACGGGOCAG ATCAGGATCG GGTGGAAGTG	180
CGGCAGATAA ACAGGGCTGT CATGAGTCAG GACACATACT TCCACTTTGA TAGTCTTTTG	240
AGGGCCAGGT TCCAGAACCT CAACTAGATC AGTCTGCACA ACGTTTCCGA GGAAATTACT	300
GGCATCATAG TGCTCACC GACTGATTC AATGGCCCA TCAGCATTC AGGCTGGTC	360
GTGAAGGGGG TTGTAATGAT CTAAACTTGC CCGGATATCC CTATGAGAA ATAAACACAT	420
GGGTGAAGTT ATACATAGGC GCGAAGAAG CCGCTTGAAT ATTGATAGAC CGAATAGTGC	480
GATCAATGTA ATTAAATAGA TAGGTACAG CCTACCGGG CTGGCATTTC GTCCGAGATT	540
GGTCTGCTC TACCAAGTCA GCCAGTTACC GGAGGGTGAA GTAGTAGGAC ATCATAACTC	600
ATAAAAAACG TTACATTCGT TGTGCTTGTC GGGAAATCAG TAATCATGCA GTTGGCTGCT	660
GAAACCGAAG GAAACGTAAT GCGTGGAT AAGTAAAGA TGC	703

(2) INFORMATION FOR SEQ ID NO:725:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1474RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:725:

GATCGTTCAG TTAAATCACC TGGAGCGCAC TGCCTTGCGG TTCCAGCACT GCCTGAAACT 60
 TGGCCAGGCG TTGCATCAGC GCATTAAGCT CCTGTACATC GCGCTCGTGC TGGGCCTCCA 120
 GCTGCAAGCG CAGTTCAGCG CTGATATGCT TCCCGCCCGG TGTAGACATC TGGGCAAGC 180
 TAGGGTAGCT GCGCGACCGC CGCAGCGCGG AGCTGCGCGC GCGCTGTCTA GCGTCTTCT 240
 GTGCCCCCAT TAGTGGCGGT ATCATCGTCT CGATCCCGCC GTTTGCCATC ATCGGTATGG 300
 GTGTGTGTGA ATCGTCAATT ACCGCACTCC AGTCTCTGTC CAGGTCCGTA AAATACTTGT 360
 CTTTITTTGCC GCGAGGTGG TTAGACCGC CCGTGGTGT TCTCCGAAGC GGGCTCAAGT 420
 GCAAGCCCGG GTGGCTGCTG CTGTGGCTCG ACAGGGACGC TGCAATAGTCT GCGACCTCT 480
 GATGGCGCTA ATATTCCCAT CGCTATCTGC AGGCTCCAGC GATGCGGACG CCAGCTGATT 540
 CGACTTCGCC GATGACGGCG TCTTCCACGA CTTGATCAGC GAGCCACAA GCGACGAAGA 600
 TGATGAATTT GACTTTTGGT ACATTTCTTT GGACCCATTC CCATTATGGG GAACCGTCT 660
 GATAGCCATC ACAATGTATA GCTCGCTACT CTGAACCGCG TGGCAACCAC TGCAAC 716

(2) INFORMATION FOR SEQ ID NO:726:

(i) SEQUENCE CHARACTERISTICS:

EP 0 866 129 A2

- (A) LENGTH: 699 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1474UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:726:

20	GATCGAATTC TCACAGGCCA GTACCTGGGT ATTACAGGTT TGCCATAGTA TGATTAGAAC	60
	CGTAAAGCCC AAGAATGCCA GGGCCAAGAG AGCTCTGGAG AAAAAAGAGC CGAAATTGAC	120
25	GGAGAACGTG AAGCAAGCGC TTTTAATTCC TGGCCAAACT TCGAATAAGC TCTTGACGA	180
	TGTTATGGTG GACCTTGGTG GACTCAAGAA GCTGATGTG AAGGCTTCA CGCGAAGAA	240
30	CGAGCTTGGT CCGTTTGAGG ATGGTGGG TGTOGAATTT CTCAGGAGA AGAATGACAG	300
	CTGGTTGGTG GTGGTCTGCT CCAACTCGAA GAAGCGGCGC AACAACTTGA CATTGATAAG	360
35	GACGTTGGG TACAAGGTTT ACGACATGAT GGAGCTGCAG ATTGCAGAGA ACTACAAATT	420
	GCTAGCGGAC TTCCGGAAGC AGACGTTTGC AGTGGGGTTG AAACCGATGT TTTCCTTCCA	480
40	AGGTGCGGCA TTGACTCTC ACCAGTATA CAAGCAAGTC AAGTCTTTGT TCCTGACTT	540
	CTTCGGCGGT GAGGTGACCA AGCTGCAAGA CGTGCAGGG CTTGAGCATG TGATAGCAAT	600
45	GACGATCCAG GCGACTTTG AGGATGGGA GGCATTGCC AACGTCCTTT TCCGGTCTA	660
	CAGGCTTAAG ACGTACAGAA GCAGCCAAGG TGTAAGAA	699

(2) INFORMATION FOR SEQ ID NO:727:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1475RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:727:

	GATCGACCA ACGAGCGCAT CTGCAGCCAC ATGTTGATA ACGTCACCAT GATCGACGAA	60
20	ACCGAGGAGG ACCAGGGGCG AAAGAAGGGC GCGTTTGCTG TTGAAGCGG GATCGTGGG	120
	CGTCAACCG TAAATAGTCT TATAGCCAGC ACGCCAGGCG CCGGCCGGTT CCTATGTAGT	180
25	CCTGCAATCG CTGCTTGCT AGCGCACGA TCACAGAATA CAGCTACTTT ATCCTAAATC	240
	CACTCCTATC AAAATATCCA GCGCGACAT TTGTTCTCTG TCTGTGGGA TGTGGGGTC	300
30	GCCATTGTGG AGTAGGGCG CAACTCGGAC AGCGACCACA GGTGCGCATC ACAGCTGCG	360
	GTCCCGTGTG CGTCCCTGGA ATCCTGTCTC AAGCCCTTCT GGTCAAAGCC AGCCAAGCTC	420
35	CCCTGTCTGA TGGGTCTCT GACCGCTGCG TCACCAAGT CCTGGTATGG ATCTGCGCG	480
	ACGCTTCTGG GGGCCGCGG CGTTGTGTGA AGCCAGTGGC ACAGAGAGGG TGTGGCTGTT	540
40	AGCGCAACAG ACGAGGCGCC TGTGCGGCG GCATGGGCG CCGTGGCGAA TCGTGGGG	600
	TTTATGTAAT TGCTGCCCTG GTCCGATGTC TATGTGTCT GCGAACGGA AATCGGGGAC	660
45	GCAGGAAGT TGGCTCGCC GCCATCGTTC TGCAGCTCT TGGTTGCGG CACCAAAGCC	720
	TCCTTCTGCA GCATCCGCGC TGAGCGGT	749

50

(2) INFORMATION FOR SEQ ID NO:728:

(i) SEQUENCE CHARACTERISTICS:

55

(A) LENGTH: 740 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1475UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:728:

GATCTTCGGT CCCGAGTACG GTCGTCTCTT CGAGATATNA GCACCCAGCG CAACTGTATC 60

20 AAGCTAACCA ACACAGTKCG CACGCTTTTC GAGCCGAGCT CAGGCGGAG GTGAACCAGC 120

TCTGAGACAG ACAGAGGCC CTGTGTCAGA AGTAGCTCAA TAACAGTCC GGCTGGCTCG 180

25 CCGAGGTGG AGCCGGCTAC CTCTGTGTAC AGGAAGGTTT CAGGACTCAA TGTCCTCATC 240

TCCAGTGTG ATACCGGCAC CTCGCAGCA CGCTGTGTTT CGACTGTCC ACGTCAGCA 300

30 CCCATAGATC CGTTCATTAT GCACTACGAC CTGCCCCCA CTCAGGCCA GGGCCGCTG 360

GAACGCAATA CTCGCTAGTG CTAGTCCCA CCTAATATCT ATCTCATGCG CCATCGAGCA 420

35 GCGGGCCAGC TAAAAAATCA CCACTGGCGG CTCACCAAGC ACGGTTCACT AAATACGAAA 480

CAGTTGTGTCG TCACGTGTG CTCAGTGAT TTTACCCGGC CGTATAATA TCGGTTCTC 540

40 AGCGGCGCA GCCAAGGACA CTTCCTGTAT CATAACAAAC CAGCACAGC GGTAGGAGCT 600

ATCGGCAGAG TCCCAATACC CTGCTACTG TTGACATTAG GTGGTTCAA TGAGTGTCTG 660

45 TTTAGTGGTT ACCAAGAGTG TGGGACAGC CACATTGGG ATCTACACG GGATGGTGGT 720

AACGCGGCAG TTGGTCTTC 740

50

(2) INFORMATION FOR SEQ ID NO:729:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

55

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1476RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:729:

	GATCGTATCG CTAACGTGTA TATCGAAAGA AGCACAGACA TCCCGGAAAA ATGACATCTC	60
20	AGTGACACTC TTCAACAAAT CATAAGAAGA AAAGTATGTG ACTAATGCTT GCAGAAAAAT	120
	AAATTGCTCG CTACCACTAA GCGATGTTAG TAGCGTGCCA TGGCATTCAA TAAATCGTAA	180
25	GAGATACGTG GGTGGTATCT CGATGCTTTT GAGGTACGCA AAAATTGGGC CATATAAATC	240
	GATCTTGAAT GGTAGCCTTT TCATATCGA TTCTTCAAGA AGTCTGTTTA TAAGTCTTTT	300
30	ATCAGAAATG TCATAGACT GATGCAGGAG AGCACTTAGC ACATGCCCTT TATTCCTAGG	360
	ATAGAGCAAA TATTCCTTGA ACGAAGCTGG GTCTTTCCGG AAGTCAGGCT TCATACCATA	420
35	AAGGTACATG TATACATTCC TTGCGACATC CATATCCTCA ATACTGCTTT CAAGCATGCG	480
	AAGGTAAAAT TGTAGGAAA ATTCCGGTAC CCAGGAATGC TGTTGAAATT GGTCCAGAG	540
40	TTTGTATGCT GTCTTGGGGT GGTTCCTTCC GACGGCCAAC AGGAAGTTGG GACAGAACCA	600
	GCGTCTGACA GGAATCAAG ACCATCTGTT GAGCGAATTT GGTGAGAAG GCGATCAAGC	660
45	AGCTTCACAG CAACTTCCAG GGAATCTAAG CTGACAAGCC CAGCTAC	707

(2) INFORMATION FOR SEQ ID NO:730:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 635 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1476UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:730:

5	GATCTGAAAC TAACAACAGC AGTCGGTGAA CCAAGAGGCA TTGGAGGCGT ATGACGGCGT	60
10	GTGCAAGGC AAGTACACTA TGGCTTTGGG CCAGACCAAC ATGAGCTTTG TGAACGACCG	120
15	CGAGGACATC TACTCGATGT GTTTGACCGC GTGCTCGAAC TTGATGAAGA ACTACGATAT	180
20	CAAGCCCGAA AGCATCGGC GCCTCGAGGT GGGTACGGAG ACGTTGCTTG ACAAGTCGAA	240
25	GTCCGTGAAG TCTATTTTGA TGCAGTTGTT CGGCGAGAAC ACGACTTGG AGGGTGTCGA	300
30	TACCGTGAAC GCCTGCTATG GCGTACTAA CGCGTTGTTT AACTCCTTGA ACTGGATTGA	360
35	GTCCAGTTGG TGGACGGTC GTGACGCAAT CGTTGTTTGT GGTGACATCG CAATCTACGA	420
40	CAAGGGTGCC GCGCGGCCCA CTGGCGGTGC GGGAACTGTC GCTCTCCTGA TGGTCCAGA	480
45	CGCCCCCAAT GTCTTTGACT CTGTGGGTGG CTGTACATG GAGCAAGTCT ACGACTTCTA	540
50	CAAGCCTGAC TTCCGCAGTG AGTATCCATA CGTGGACGGC CACTTCTCAC TAACATGCTA	600
55	CGTCAAGGGC CGTCGACCAG GCTTACCGCG CCTTA	635

(2) INFORMATION FOR SEQ ID NO:731:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 719 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1477RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:731:

10 GATCTTTGCG AGGGACCACT CTGCAATCCA AGAAGACTAG AGGAGTTGTC TAGGACAACA 60
 AAGTTTATAA GGAGACTTCT GGTGTTTAC CGTCTTTTC GATACCGATT CTGACAGTA 120
 15 TATTCAAAGG CCAATAACGC CAAACAATAC GTTAAAGITG GCTGCCAGTT TTTCAACACA 180
 CTACTACAAC ATTATGAGGG CATAAAGGTG CTCTAGATG ATAGCAAAAT CATCTCTCAG 240
 20 CTGCCAGTA CTCTCTATAA GGCTATGGAA GGCATATTT TACCCAGTAA GCTCTTCTCC 300
 TCTTGGGCTC TCCAGAATAC GTTATGTGGC TCCTACTTCA AATTCCTCGG AITGCTAATG 360
 25 AAATCTAAGG AAGGAATCAA TATATTAGAA AAATGGAACA TGTTCACTGT CATCTATAAA 420
 ATGTTTCAGC CATCACCOCT AGCGAAGAA TATTTGTTAC TCATGCTTCC AGAGTTGGAC 480
 30 CTCTCTCACA GCATACATTG TAGGATTATT TTTAGCAAAG CGCTAGTGA CAGTAGAGAA 540
 GTCATAAGGA TCAATGCTAC CAGGGTTTCA GCGAAATGA TCAGCAGGT CAAATTATCT 600
 35 GATCCCACTC TGGAAGAGTT CATGTTAAAC CTGTGGTGG CTCAGTTGTA CGATTTATCG 660
 AGTGAAGTGG TAGCAGTGGC CGACCAGATA CTGTACCATT ACTGTTTAAG TCAAAGTAT 719

40

(2) INFORMATION FOR SEQ ID NO:732:

(i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1477UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:732:

5 GATCCGAATG TCCTTAGTCT GTGGGAAGGA ACCGATGGTG GTGGTTGGGA ATAGCGGGAG 60
 CTTGAAAATT GGCTGCTGCT CCTTGAGAGC CTCGCCGAAT GGTGGGGCTC TCGTGGATAG 120
 10 CTTCTCGTTC AAACCAGCAA CACGTCCTGG ACAGCAGGAT CGTTGGTGAT CCGAGAGGCG 180
 GCACGGCAG CAATCGAGTC TGCATTGCC TTCAACTCAG AGGAAAAGTC TTGCCAGAA 240
 15 GCGTTCCTAG CGAGGACAAC AACCTCATCC AGCTTCTGGG TTGCAAAAGA GAACAGTCC 300
 TTGATCTCTG GCTCCAAGGC AGACTCGTTT TCCAAGTCAA CTGGAGTGTG CAACAAGGAA 360
 20 GAGGACGTGG CAACAATAAC GGGTCCOCT CCTAGTTTCT CAATTGCCCT AGAAATAGTG 420
 GCAGCGACT TCGCGAAGTC ATTCTTCCAG ATGTTTCTAC CGTCAACAAC ACCTACAGAC 480
 25 AACGACTGGT TTTCGCCAAC GATCGCTAGA AGGTGTCCA ACTGCTCTGG GTTCTCTACC 540
 AAGTCGAAAT GTAGGCCAGC CACTGGAAGA TCCACAAGCG CCTTCAAGTT CGGAACGACT 600
 GTCCCGAAGT AGGTGGTCAA CACAATGTGG AGAGACTTTT CGCACCTAT ATGTTCATAA 660
 GCGTCTTAA ACGCAGACTG TAGTCTCTCT GCAAGATCTA AGACCAACAC AGGCTCATCC 720
 35 AGCTGA 726

(2) INFORMATION FOR SEQ ID NO:733

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 675 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1478RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:733:

5 GATCATTATG CATTTTATGA TATACACTGC TATCAAAGAC GACCAGTGG TAGTGAATAC 60
 ACACCGGCTG GCAGACACAA CCAATGCCGA GGATGAGGCT AGTGAGGACG AGTTAGAGGA 120
 10 GCTCGTTAGT AGCACTGCAC ACAGCGGCGA TGCTACTAGC GAGTGAAGAG GTATTTTACC 180
 TGAGCTTTGG AATATATAGG TAGGTGATGA GCTTTACAAT ACGTATTGCG TAACAATGAA 240
 15 ATGCAGGAAC TCCTCAAGCT CTTTAAGTTC TGTAAAAACG GTATCAAAAA CGTTTTTTC 300
 AGCGCTGTCT GCGTAAATGA CCTGGATTAT CGCATTCGAA TAGTTGCTGC TCTTCAAGGT 360
 20 CAGATCTATG ACGCCTTTTG CGCGAGGCT GGTACGCGT TCGCTGGTG GCATGCGGAG 420
 GATCTTGTC AATAGGCCCA TCTGTTTGTT TAGGCTAGCG ATGTTGGCT CAGGAGCATG 480
 25 GAGCGTATCG GGCTGCTTC GTGTGGAAG CAGCTGATG GACGAACCAG GAACAATGTT 540
 CAAGAGGCAC TCCGTAACAA CTCTTTTAAC CACCTGTAAG TAGTTCTAT GCCTTATCT 600
 30 ACCCAAAACA GGTCTTAATA GGAGAAGTC ACCATCAGCT CTATATTTAT GCTTGGAGT 660
 TGCTGGCTTG AGGOC 675
 35

(2) INFORMATION FOR SEQ ID NO:734:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1478UP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:734:

5	GATCTGAGTA TCAAGATACC ATGAGOGATT CTGTCTCACT CTGTGTACGG ACTGCCCCGC	60
	TTATCCAAGT GCAGACAAGA TGCAACATGC ATACTGGCAG ACCAGGCCCT CTGATCATC	120
10	GAGTGTCTTT AAGCAACATA GTAGGAGGCT TGAAGGAGG AGTTCTTGG CTACCTATGT	180
	AAGAGATGCA GCGGATGGTT ACTGCTGGTC ACGTCTAGA ATCATATACC ACGGAAAAGT	240
15	GGATATGTG CTGCCCCTTT AGATATGGCA GTTTTGCCAC CCTACTTGAC ACAGCTGTAA	300
	CAACGTTGAC TAAGGATAAA CAAGAGCTAC TGTCAACGG CTATCCATAC AATGACATCT	360
20	GATCTAATGG AGGTGGACTC GCGCCATACA CCGATGTTT ATAGGCAAG CAAGGACAAC	420
	GTTGACAAGT TTGTGATCT GCTTCGCCAG GTCTCCAAGA CTACTATAAC ATTGGACTCC	480
25	CGCTATGTGT GGAAGTCTCT TCGCGAGCTA ATGTCTTTGC GCAAGGAGCT GCAGCAGCAG	540
	ACCTCACCA TCCTATCAC GCTCTATAT CCGAGGACT CGGCATTCAA GGTGCCATTG	600
30	CTTGTGTGG TGAACCAGAA CTCAAAGCA GGTGAGGA TCGGAGGCA TTCCAGGGCA	660
	AGTACCCCGC AGACTTTATC AGCTGACTGC TGACGGCAAG ATTGAC	706

(2) INFORMATION FOR SEQ ID NO:735:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1479RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:735:

GATCGGCTTA CAGTAGCATT GTCTCCGAG GTTGCCCTGOC TCAATTTTAT CCGGGGCTC 60

5 GAAGAACTCC AACTCGAAGA GGAAGTTCGT GCGGCACTGG CATAAATTGT CTATGCCCAG 120

CCCTGTMGG CAGAACGCAT GCTTGCACTC TGCAAACTGC TGCACTCGA ATTGCGGAT 180

10 CAAGAGCTGT AGCTCCAGA GGCATCCTT GGTAAAGCTG CTGCTCCGG AGCGGTGGC 240

GCACCGTTG TCGATGCATT CGTIGATCTC CTCTGTTAGG TTGCGTCTG TGTGCGGA 300

15 ATTCTGAAA AGCGTCGGC GCACTATCTC CCTGCTGAA GGCACCTTGT TCTCCTTGT 360

CCGCTGTCG TTTCTGTAGG GCGAGTGAC TGATGATGAA TCATTCATAA AGCTGTTTTT 420

20 ATTCGGAGG CTGGGCTTC GCTGCACTT CAGTCAAAT TGTTCAACG CCTCTTATA 480

AGGTCCTTC TCATTTA TAGCACTATG CCAAGATCA GATGTGGCA TCTGGGATTA 540

25 CTAGACTGT TGGCCAGCA TCGAGTCTC TTATATACAC TGGCAGTTG TGTCTGACAC 600

AAAGAGTAA AATTGGGACT ACGAAAAGG AGTCGCCAA CAAGTGCAA ACGTTGTAAA 660

30 AGGATAGTGT ATATTTATAC TATTAGTAAT TATGT 695

(2) INFORMATION FOR SEQ ID NO:736:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1479UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:736:

GATCGGGCA TTACGGTGC CATCTACGAG GAGGACATG TCGGGACCA GGGCGGACG 60

GAAGTAGACG GGCAGCCCA GAAGCTGGGT TCGTACCGG CGCGGGCCGG GCGTTCTCG 120
 5 AACACGCTGT CCAACCTGCT TCCAGTATC AGCGCGAAGC TGCACCACAA CCGGAAGGGC 180
 GGGACGGGA AAGTCGCGCC GTCTGCTGG GACGCGGACG CGGAGCCCG GTCTACCGTG 240
 10 GTTCCGGGAG AGATGGCGGG CAGCATCAAG CCTCCGCAGG ACCTACATAA CGTGGTCAGC 300
 TTCCCGGAGC CATAACGGCT TGCACAGCCA CGCACTTGA GCGAATCGTA TACGTATGGT 360
 15 TCTGGATACA GTGGCCACT GCAGCCACA GTCTCCAACC CTGCTACGG GACTCGGAAT 420
 AATCTGTAT CTTCGAGAT TACTTCGCTT TCAAGCATGG GCGAGCTGG AACCCCGAGC 480
 20 ACGAGCAACA TCTGGACAA CAATGGCTCA AGCCCGGAG ATCCAATCAG CAACATGCTC 540
 ACGACGAGT TCAACCGAT CCCCCTCCCC GACTTTGGCC AGTCGAATA CTACGAGTA 600
 25 ATCAGCAGC AGCAGCTTC GCAGTCAGG AACTCACTGA ATGTGCCCTC CGGGGGTAAT 660
 ATTTCTGGGA AAAACGTACT CGTTCTCAAT CTAATGCTTC TAGCATATAC GCAGAT 716

(2) INFORMATION FOR SEQ ID NO:737:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1480RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:737:

GATCCTCTGA GCGAGCCCT ATCCCAAGTT TATTCCAACT TCTTGCCGAA AGGTAACAAA 60
 55 CCGTTTATTT ACATGAGTTT ACACATAACA CCGGAGAATG TTGATGTTAA TGTCATCCT 120

ACAAAGGGTG AAGTACGATT TTTGTATGAA GAAGAGCTAA TAGAGGGCAT TGGTAATTTG 180
 5 CTCCATGAGC GGTATCTCA GCTGGATACT TCGGAACTT TTAAACGGG CTCTTTGACA 240
 CCTGGGAAAC ATAGTTCAAC TGTGTCTCC GCATTCCGJC AATCAGCGAC CCCCACAAGT 300
 10 ACACAACCAA AGGCAAAACG TGCAGAAAAC ATGCTTGTC AAGCTGATG TAGCCAAGCT 360
 AAAATTACTA ATTATGTCAG AGCAAGTCAA AGCTCTACCA GCTCATCCTT TTCCACTTCT 420
 15 TTAAGAAAGA AATCAGATGC GGCAGCAAGT GATGAACCTG GCAACATTGG CGAGGACTCC 480
 CAAGATACAG CAACATCGAT GACAACCTCT ACACAAGAGC CTAATCATA CAAGTCTAGA 540
 20 GCCATTTTAA CCTTATTGAA TAATGAGTAT GAAGTCGTAC AGCGGAAAG AACCGAAGTA 600
 AATCTACCA GCATCAAAAC TCTAAAGCAG GAAGTAGAGC AAGATATGCA TAAGGGAATT 660
 25 AACAGTGT TTTGCAGATA TGACCTATGT TGGTGTGTT GATGCAACAA GCGGACTTGC 720
 ATCTATACAG CATGGTTTAA AGTTATTT 748

(2) INFORMATION FOR SEQ ID NO:738:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1480UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:738:

GATCGGTCA TGGGATACAT AAACCACGGA ATCAATGAAA AGCTCGCTTA CGAACAGTTT 60
 55 GGATCTGTAC CGGAGAAGGG CTACTATATT CCTCCACAA TATTTCGTGA CGTTCCTCAG 120